REPORT RESUMES

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A MASTER PLAN FOR HIGHER EDUCATION IN CALIFORNIA, 1960-75.

BY- COONS, ARTHUR G.

CALIFORNIA STATE DEPT. OF EDUCATION, SACRAMENTO

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BASED ON PROJECTIONS OF NEEDS, STUDENTS, COSTS, FACILITIES, AND STAFF, THE REPORT RECOMMENDED THAT PUBLIC HIGHER EDUCATION CONSIST OF THREE SEGMENTS--THE UNIVERSITY OF CALIFORNIA, THE STATE COLLEGES, AND THE JUNIOR COLLEGES. ENROLLMENT AT THE UNIVERSITY IS RESTRICTED TO THE TOP ONE-EIGHTH OF CALIFORNIA PUBLIC HIGH SCHOOL GRADUATES, WHILE THE STATE COLLEGE STUDENTS ARE SELECTED FROM THE UPPER ONE-THIRD, AND JUNIOR COLLEGES ADMIT ALL HIGH SCHOOL GRADUATES. JUNIOR COLLEGE FUNCTIONS INCLUDE LOWER DIVISION TRANSFER EDUCATION, VOCATIONAL-TECHNICAL FIELDS LEADING TO EMPLOYMENT, AND GENERAL OR LIBERAL ARTS COURSES. A COORDINATING COUNCIL WITH MEMBERS SELECTED FROM THE THREE SEGMENTS, PLUS REPRESENTATIVES FROM INDEPENDENT COLLEGES AND UNIVERSITIES, SERVES AS AN ADVISORY BODY IN MATTERS OF PLANNING, REVIEW, COORDINATION, AND DEVELOPMENT. DISCUSSIONS OF PROJECTED ENROLLMENTS, FACILITIES AND RECOMMENDATIONS FOR ADDITIONAL INSTITUTIONS, STAFFING NEEDS, AND FINANCIAL PROBLEMS ARE INCLUDED, AS WELL AS DETAILED DISCUSSIONS OF ALL PHASES OF THE PUBLIC HIGHER EDUCATION SYSTEM. (WO)

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A MASTER PLAN
for
HIGHER EDUCATION IN CALIFORNIA

1960-1975

UNIVERSITY OF CALIF.
LOS ANGELES

OCT 12 1966

CLEARINGHOUSE FOR
JUNIOR COLLEGE
INFORMATION

JC 660 076

A MASTER PLAN FOR HIGHER EDUCATION IN CALIFORNIA, 1960-1975

Prepared for the Liaison Committee of the
State Board of Education and The Regents
of the University of California

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With the Assistance of
The Technical Committees, the Joint Advisory Committee,
and the representatives of the Legislature and other
State Agencies

PUBLISHED BY
CALIFORNIA STATE DEPARTMENT OF EDUCATION
SACRAMENTO, 1960

TO

DOROTHY M. DONAHOE

(February 20, 1911–April 4, 1960)

Author of Assembly Concurrent Resolution No. 88, Vigorous supporter of the Master Plan for Higher Education in California and many other efforts to improve education in California,

THIS REPORT IS GRATEFULLY DEDICATED

STATE OF CALIFORNIA

February 1, 1960

HON. GLENN M. ANDERSON
President of the Senate, and MEMBERS OF THE SENATE
Senate Chamber, Sacramento

HON. RALPH M. BROWN
Speaker of the Assembly, and MEMBERS OF THE ASSEMBLY
Assembly Chamber, Sacramento

GENTLEMEN:

Assembly Concurrent Resolution No. 88, adopted in the 1959 session, provides that ". . . the State Board of Education and The Regents of the University of California are requested to report on the subject of this resolution to the Legislature at its 1960 regular session within three days of the convening thereof. . . ." Pursuant to this resolution, we now transmit the study requested, which is entitled *A Master Plan for Higher Education in California, 1960-1975.* The Liaison Committee plans later to publish this report for wider distribution, at which time the supporting data may be further refined. The Liaison Committee also plans to issue the reports of the Technical Committees as separate documents.

We are glad to inform you that these recommendations set forth in Chapter I of this report were unanimously approved in principle by The Regents of the University of California and the State Board of Education meeting in joint session on December 18, 1959. Because of the enthusiastic endorsement of these recommendations by our two boards and their wide acceptance by our faculties, the press in California, and many informed citizens, we are anxious to have them fully implemented.

Accordingly, the full resources of our respective offices are available to assist in any way to carry out those of the recommendations requiring legislative action. Since the remaining recommendations already have the approval of our boards, we shall proceed without delay with their implementation.

Respectfully submitted,

Clark Kerr
President of the University of California

Roy E. Simpson
Superintendent of Public Instruction

STATE OF CALIFORNIA

January 29, 1960

TO: Liaison Committee of the State Board of Education and The Regents of the University of California

FROM: Master Plan Survey Team

SUBJECT: Transmission of *A Master Plan for Higher Education in California, 1960-1975*

Assembly Concurrent Resolution No. 88, approved by the 1959 Legislature, requests the Liaison Committee "... to prepare a Master Plan for the development, expansion, and integration of the facilities, curriculum, and standards of higher education, in junior colleges, state colleges, the University of California, and other institutions of higher education of the State, to meet the needs of the State during the next 10 years and thereafter ..." and to transmit that plan "... to the Legislature at its 1960 regular session within three days of the convening thereof. ..." Accordingly, the Committee at its meeting on June 3, 1959, took the two following actions, both subsequently endorsed by the two governing boards:

1. Approved the general outline for the study and the major problems to be included.
2. Created a study committee (later called the Master Plan Survey Team) and delegated to it responsibility for developing the plan in accordance with the approved outline.

The Master Plan Survey Team now transmits its report to the Liaison Committee. In so doing it comments as follows:

1. Despite widely divergent views held by different members of the team as to how higher education in California should develop in the future, the sixty-three recommendations made to the Committee were approved by the team *without a single dissenting vote.*
2. The suggestions made by the Liaison Committee for clarification and modification of the Survey Team's recommendations were

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of such a constructive character that the team accepted those changes. Consequently, the wording of the recommendations as approved by the two governing boards in Chapter I is identical with that found in the body of the report.

The team wishes to record its deep appreciation particularly to the Technical Committees, which provided much of the basic information underlying the Master Plan Survey report, to the Joint Advisory Committee, and to the Office of Publications of the University of California for assistance in editing and producing both this report and those of the Technical Committees. In addition, the team is most appreciative of the fine co-operation on the part of administrators and staff of both public and private institutions of higher education in the state, members of the Legislature, other departments of the State government, and many other persons who contributed to the completion of this report within the time schedule. The Survey Team also wishes to express its deep regret at the untimely death during the course of the survey of Herman A. Spindt, Chairman of the Technical Committee on Selection and Retention of Students.

Respectfully submitted,

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PREFACE

The recommendations contained in the Master Plan for Higher Education are set forth in Chapter I of this publication. Some of the factors which brought about the passage of Assembly Concurrent Resolution No. 88, the authority for this study, are presented in Chapter II. Among these were the rapidly mounting enrollments in the state's institutions of higher education, the state's financial outlook, and a growing concern that competition and unnecessary, wasteful duplication between the state colleges and the University of California might cost the taxpayers millions of dollars.

Governor Edmund G. Brown called a Special Session of the 1960 Legislature which considered recommendations in this report requiring legislative action. Appendix I gives a summary of these actions.

The basic issue in the development of the Master Plan for Higher Education in California is the future role of the junior colleges, state colleges, and the University of California in the state's tripartite system and how the three segments should be governed and co-ordinated so that unnecessary duplication will be avoided. This is not a new problem in California. As early as 1899, the California Educational Commission of 70 members was created to examine the state's educational program. One of its recommendations called for "a uniform board for the governing of normal schools." This recommendation was subsequently enacted into a law which placed the normal schools under the State Board of Education.

After careful consideration of this basic issue, the Master Plan Survey Team concluded that structure, function, and co-ordination were all so closely interrelated that they must be dealt with as a single problem. Moreover, the team concluded that the primary role of each of the three public segments and their relationship one with another were so basic to their orderly development that these roles and these relationships ought to be a part of the State Constitution. Accordingly, there is recommended the addition of a new section to Article IX of the Constitution which defines the primary role of each of the three public segments and the machinery for their coordination.

In addition to the constitutional amendment, the Master Plan Survey includes some 60 other recommendations relating to various aspects of higher education in the state, all designed to provide educational opportunity to qualified students at a minimum cost to the taxpayer.

The Master Plan Survey Team recognizes the great contribution private colleges and universities have made and will continue to make to the state. It has included these institutions in the recommended state-wide co-ordinating agency with the opportunity for an authentic voice bearing on policies directly affecting their welfare.

The Master Plan Survey Team believes in the validity of the recommendations of this report, which have been unanimously approved in principle by both The Regents of the University of California and the State Board of Education. If the recommendations are carried out and the Constitution amended as indicated, California's tripartite system of public higher education, long admired by other states, will be saved from destruction by unbridled competition. If these actions now recommended are taken, California will again pioneer in the field of higher education, its system a model of co-operation for the whole nation.

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TECHNICAL COMMITTEE REPORTS

The Technical Committee Reports, which provided much of the basic information for this study, are being produced as separate documents with titles as noted below. Copies of reports numbered 1, 2, 3, and 4 may be secured from the State Department of Education, Sacramento 14, California; reports numbered 5 and 6 may be secured from the Office of the President, University of California, Berkeley 4, California.

1. *Projections of Enrollment for California's Institutions of Higher Education, 1960-1975*
2. *Selection and Retention of Students in California's Institutions of Higher Education*
3. *California's Ability to Finance Higher Education, 1960-1975*
4. *Adult Education in California*
5. *The Costs of Higher Education in California, 1960-1975*
6. *Institutional Capacities and Area Needs of California Public Higher Education, 1960-1975*

CHAPTER I

RECOMMENDATIONS

Assembly Concurrent Resolution No. 88, enacted by the 1959 Legislature, requested the Liaison Committee of the State Board of Education and The Regents of the University of California ". . . to prepare a Master Plan for the development, expansion, and integration of the facilities, curriculum, and standards of higher education, in junior colleges, state colleges, the University of California, and other institutions of higher education of the State, to meet the needs of the State during the next ten years and thereafter. . . ."

Pursuant to this request the Liaison Committee, through its Master Plan Survey Team, developed such a plan and transmitted it to a joint session of The Regents of the University of California and the State Board of Education on December 18, 1959. At that time the following resolution was adopted by unanimous vote of the 21 Regents and nine State Board members present:

> BE IT RESOLVED by The Regents of the University of California and the State Board of Education, in joint meeting, that the accompanying recommendations of the Liaison Committee, based upon the report of the Master Plan Survey, be approved in general principle.

The recommendations of the Liaison Committee presented to the joint session of the two boards in Berkeley follow: [1]

TO THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
AND THE STATE BOARD OF EDUCATION:

Your Liaison Committee reports that, pursuant to the provisions of Assembly Concurrent Resolution No. 88, adopted by the Legislature in 1959, and pursuant to action taken by the two Boards in joint session on April 15, 1959, it has directed a basic study and the preparation of a Master Plan for Higher Education in the State of California to meet the needs of the State during the next ten years and thereafter; and as a result of said Study recommends as follows:

STRUCTURE, FUNCTION, AND CO-ORDINATION (See Chapter III)

It is recommended that:

1. An amendment be proposed to add a new section to Article IX of the California Constitution providing that: Public higher education shall consist of

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[1] The original order of the recommendations has been changed to correspond with the order of the chapters dealing with them in this publication.

the junior colleges, the State College System, and the University of California. Each shall strive for excellence in its sphere, as assigned in this section.

2. The junior colleges shall be governed by local boards selected for the purpose from each district maintaining one or more junior colleges. The State Board of Education shall prescribe minimum standards for the formation and operation of junior colleges, and shall exercise general supervision over said junior colleges, as prescribed by law. Said public junior colleges shall offer instruction through but not beyond the fourteenth grade level including, but not limited to, one or more of the following: (a) standard collegiate courses for transfer to higher institutions, (b) vocational-technical fields leading to employment, and (c) general, or liberal arts courses. Studies in these fields may lead to the Associate in Arts or Associate in Science degree. Nothing in this section shall be construed as altering the status of the junior college as part of the Public School System as defined elsewhere in the Constitution.

3. The State College System:

   a. Shall constitute a public trust, to be administered by a body corporate known as "The Trustees of the State College System of California" with number, term of appointment, and powers closely paralleling those of the Regents.

   b. The board shall consist of five ex-officio members: the Governor, the Lieutenant Governor, the Speaker of the Assembly, the Superintendent of Public Instruction, and the chief executive officer of the State College System; and 16 appointive members appointed by the Governor for terms of 16 years. The chief executive officer of the State College System shall also sit with The Regents in an advisory capacity, and the President of the University of California shall sit with the Trustees in an advisory capacity. The members of the State Board of Education shall serve ex officio as first Trustees, being replaced by regular appointees at the expiration of their respective terms.

   c. The state colleges shall have as their primary function the provision of instruction in the liberal arts and sciences and in professions and applied fields which require more than two years of collegiate education and teacher education, both for undergraduate students and graduate students through the master's degree. The doctoral degree may be awarded jointly with the University of California, as hereinafter provided. Faculty research, using facilities provided for and consistent with the primary function of the state colleges, is authorized.

4. The University of California shall be governed by The Regents as provided in Section 9 of Article IX of the California Constitution. The University shall provide instruction in the liberal arts and sciences, and in the professions, including teacher education, and shall have exclusive jurisdiction over training for the professions (including but not by way of limitation),[2]

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[2] The draft of the proposed constitutional amendment by mutual agreement omits the phrase "including but not by way of limitation."

dentistry, law, medicine, veterinary medicine, and graduate architecture. The University shall have the sole authority in public higher education to award the doctor's degree in all fields of learning, *except that* it may agree with the state colleges to award joint doctor's degrees in selected fields. The University shall be the primary state-supported academic agency for research, and The Regents shall make reasonable provision for the use of its library and research facilities by qualified members of the faculties of other higher educational institutions, public and private.

5. An advisory body, the Co-ordinating Council for Higher Education:
   a. Shall consist of 12 members, three representatives each from the University, the State College System, the junior colleges, and the independent colleges and universities. The University and the State College System each shall be represented by its chief executive officer and two board members appointed by the boards. The junior colleges shall be represented by (1) a member of the State Board of Education or its Chief Executive Officer; (2) a representative of the local governing boards; and (3) a representative of the local junior college administrators. The independent colleges and universities shall be represented as determined by agreement of the chief executive officers of the University and the State College System, in consultation with the association or associations of private higher educational institutions. All votes shall be recorded, but effective action shall require an affirmative vote of four of the six University and state college representatives; except that on junior college matters the junior college representatives shall have effective votes; and on the appointment and removal of a director of the Council all 12 shall be effective.
   b. A director of the staff for the Co-ordinating Council shall be appointed by a vote of eight of the 12 Council members, and may be removed by a vote of eight members of the Council. He shall appoint such staff as the Council authorizes.
   c. The Co-ordinating Council shall have the following functions, advisory to the governing boards and appropriate State officials:
      (1) Review of the annual budget and capital outlay requests of the University and the State College System, and presentation to the Governor of comments on the general level of support sought.
      (2) Interpretation of the functional differentiation among the publicly supported institutions provided in this section; and in accordance with the primary functions for each system as set forth above, advise The Regents and The Trustees on programs appropriate to each system.
      (3) Development of plans for the orderly growth of higher education and making of recommendations to the governing boards on the need for and location of new facilities and programs.
   d. The Council shall have power to require the public institutions of higher education to submit data on costs, selection and retention of students, enrollments, capacities, and other matters pertinent to effective planning and co-ordination.

SELECTION AND RETENTION OF STUDENTS (See Chapters IV and V)

VALIDITY OF ENTRANCE REQUIREMENTS

It is recommended that:

1. The junior colleges, state colleges, and University make statistical studies of their entrance requirements, and report annually, in standard form, to the co-ordinating agency on validity judged by: (a) scholastic success, (b) persistence, (c) rate of dismissal, and (d) scores on standard tests.
2. Each public segment report annually to the co-ordinating agency on its grading standards, providing data on such matters as the following:
   a. Distribution of undergraduate grades awarded (proportion of each grade given for each institution, department, and by lower and upper division).
   b. Its grading differential with other institutions or segments as computed from the records made by transfers.

ADMISSIONS POLICIES AND PROCEDURES

It is recommended that:

1. In order to raise materially standards for admission to the lower division, the state colleges select first-time freshmen from the top one-third[3] (33⅓ per cent) and the University from the top one-eighth[4] (12½ per cent) of all graduates of California public high schools with:
   a. Continuation of existing special programs and curricula involving exceptions to this rule subject to approval by the respective boards, and these to be kept to a minimum, and those that are continued to be reported annually to the co-ordinating agency. Any new special programs and curricula involving such exceptions to be approved by the co-ordinating agency.
   b. Graduates of private and out-of-state secondary schools to be held to equivalent levels.
2. Implementation of Recommendation Number 1 to be left to the two systems with the following provisions:
   a. Each to have the new requirements in force for students admitted for Fall, 1962.
   b. Inasmuch as the Survey Team favors acceptance in both systems of a requirement that all, or almost all, of the recommending units for admission shall be in college preparatory courses, that the application of such a requirement be carefully studied during 1960, and this principle be applied as fully as possible throughout both systems.
3. For both the state colleges and the University, freshman admissions through special procedures outside the basic requirements of recommending units of high school work and/or aptitude tests (such as specials and exceptions to the rules) be limited to 2 per cent of all freshman admissions in each system for a given year. Furthermore that all "limited" students be required to meet regular admission standards.[5]

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[3] As defined by the state college system.
[4] As defined by the University of California.
[5] State Board of Education action makes this effective Fall of 1960.

4. Junior college functions now carried by state colleges and nondegree lower division programs at any state college or University campus (other than extension) be subject to the following rule:

   The equivalent of junior college out-of-district tuition be charged beginning in Fall, 1960, against the counties of residence of all lower division students who are ineligible to admission by regular standards, and the funds collected paid to the General Fund of the State.

   Furthermore, that such junior college functions now carried by state colleges at State expense be terminated not later than July 1, 1964, all admittees thereafter being required to meet standard entrance requirements.

5. The state colleges and the University require a minimum of at least 56 units of acceptable advanced standing credit before considering the admission of applicants ineligible to admission as freshmen because of inadequate grades in high school, except for curricula that require earlier transfer,[6] and except also that each state college and campus of the University, through special procedures developed by each, be permitted to accept for earlier transfer not more than 2 per cent of all students who make application for advanced standing in any year.

6. Undergraduate applicants to the state colleges and the University who are legally resident in other states be required to meet higher entrance requirements than are required of residents of California, such out-of-state applicants to stand in the upper half of those ordinarily eligible. Furthermore, that there be developed and applied a common definition of legal residence for these public segments.

7. A study of the transfer procedures to both the University and the state colleges be undertaken through the co-ordinating agency during 1960 with the view of tightening them. Evidence available to the Master Plan Survey Team indicates the need for such action.

8. A continuing committee on selection, admission, and retention as a part of the co-ordinating agency be established, to make further studies in these fields (see Recommendations 1 and 2, under "Validity of Entrance Requirements," page 4), and to report annually to the appropriate agencies and persons on the following practices:

   a. Transfer procedures as indicated in Recommendation 7

   b. State college and University procedures in admission to the graduate division

   c. The desirability of differing standards of admission for the varying programs within each segment of publicly supported institutions

9. Private institutions of higher education in California in the approaching period of heavy enrollments strive for increased excellence by adopting rigorous admission and retention standards.

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[6] Both systems have adopted 60 unit rules for such transfer students, but each left a way to bypass it. The state colleges allow admission on 24 units with a *B* average; the University, on 30 or more with a 2.4 grade-point average and a satisfactory score on the Scholastic Aptitude Test.

RETENTION

It is recommended that:

1. Each segment strive for greater uniformity in policy and practices on probation and dismissal; that among segments where the programs are comparable, an effort be made to secure uniformity in policy and practices on probation and dismissal; and that each segment report annually full retention statistics to the co-ordinating agency.

DISTRIBUTION OF LOWER DIVISION STUDENTS

It is recommended that:

1. In order to implement more fully the action of The Regents of the University of California and the State Board of Education in 1955, "the University of California emphasize policies leading to the reduction of lower division enrollments in relation to those of the upper and graduate divisions, and the state colleges pursue policies which will have a similar effect," the percentage of undergraduates in the lower division of both the state colleges and the University be gradually decreased ten percentage points below that existing in 1960 (estimated to be 51 per cent in both segments) by 1975. It is further recommended that the determination of the means by which this recommendation can best be carried out, be the responsibility of the governing boards.[7]

STATE SCHOLARSHIPS AND FELLOWSHIPS

It is recommended that:

1. The present scholarship program be expanded to include additional scholarships to provide for the rapidly increasing number of qualified applicants.
2. The amount of the scholarship be increased to compensate for additional educational costs since the original stipend was established.
3. In the event a State scholarship recipient elects to attend a junior college before entering a four-year institution, his scholarship be retained for him, provided his junior college record meets the level required by the State Scholarship Commission.
4. In addition to the State Scholarship Program a new and separate bill be enacted to provide subsistence grants to recipients of State scholarships, the amount of such grants to be based on the financial need of the individual students, the maximum amount being that necessary to defray expenses of room and board at the average of such charges to the student in institutionally operated student residences.
5. In view of the need to divert more college graduates into teaching and the need for more funds to provide fellowship assistance to those in graduate training, a new State Graduate Fellowship Program be established to accomplish these purposes and to assist in making it possible for graduate schools to operate at as near capacity as possible.

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[7] It is estimated that this recommendation would result in the transfer of some 40,000 lower division students to the junior colleges by 1975. It is expected that the recommendation to select state college students from the upper 33⅓ per cent of all public high school graduates and the University from the upper 12½ per cent, together with the recommendation that all "limited" students be required to meet regular admission requirements, will make up another 10,000.

INSTITUTIONAL CAPACITIES AND AREA NEEDS (See Chapter VI)

UTILIZATION OF PHYSICAL PLANTS

It is recommended that:

1. The standard utilization of classrooms in the junior colleges, state colleges, and the University of California be at the maximum practicable levels, but in no case shall [use of classrooms] average less than 30 scheduled hours per week, with class enrollments after the first month of the term averaging 60 per cent of room capacity.

2. The standard room utilization of teaching laboratories in the junior colleges, the state colleges, and the University of California be at the maximum practicable levels, but in no case shall [use of laboratories] average less than 20 scheduled hours per week, with class enrollments after the first month of the term averaging 80 per cent of room capacity.

3. In determining the need for instructional facilities in the junior colleges, state colleges, and campuses of the University of California, these factors be taken into account:
   a. The two recommended standards of utilization
   b. The space standards as found in Tables 33, 34, and 36 of *A Restudy of the Needs of California in Higher Education*[8] (with such modifications as changes in the present differentiation of functions among the public segments may justify).
   c. The number of FTE (full-time equivalent)[9] students used in projecting building requirements be limited to those to be instructed in the day program, that is, from 8:00 a.m. to 5:00 p.m.

4. In the scheduling of classes greater use be made of the late afternoon and evening hours and when possible of Saturday, thereby making the achievement of the foregoing utilization standards easier.

5. The scheduling of instructional facilities be centrally controlled on each campus with such exceptions as may be approved by the appropriate governing board. (Examples of exceptions are the physical facilities for medicine, law, and other areas where the facilities are designed for highly specialized uses.)

6. The co-ordinating agency (or a continuing committee on plant problems which it might create) undertake without delay the following studies:
   a. A complete study of the current utilization in the junior colleges, state colleges, and the University of California [no such study has been made since 1953-54] for the specific purpose of making such modification in the above-recommended standards of utilization as are justified by the findings.

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[8] T. R. McConnell, T. C. Holy, and H. H. Semans, *A Restudy of the Needs of California in Higher Education*. Sacramento: California State Department of Education, 1955, pp. 345, 348, 352.

[9] The number of full-time equivalent students in an institution is determined by dividing by 30 the total number of units of credit for which all students are enrolled for a year.

b. The possible economic and educational gains that might be effected by the adoption of an articulated calendar for all segments of public higher education in California.

7. Space provisions for health services be increased to allow for infirmary care on state college and University campuses where dormitories are provided.

8. Inasmuch as the space standards found in *A Restudy of the Needs of California in Higher Education,* in Tables 33, 34 and 36, were based on the then existing functions of the state colleges and the University, such standards be modified where agreed-upon changes in functions require different space allocations.

9. In order to provide calendar arrangements that will both fit the public-school year and permit fuller use of the state's higher education physical facilities:

   a. Every public higher education institution, and private institutions as able, offer academic programs in the summer months of unit value equivalent to one-quarter of a year, one-half or three-quarters of a semester.

   b. State funds be provided for the state colleges and the University of California to offer during the full summer period academic programs on one or more of the patterns indicated in (a) above for regular degree and credential candidates who have met basic admission requirements.

   c. The co-ordinating agency (or a continuing committee which it might create) study during 1960 the relative merits of three-semester and four-quarter plans for year-round use of the physical plants of both public and private institutions, and on the basis of that study recommend a calendar for higher education in California.

ENROLLMENT LIMITATIONS AND PROJECTED PLANT NEEDS

It is recommended that:

1. With respect to the establishment of new state colleges and campuses of the University, the governing boards reaffirm their action taken in joint session on April 15, 1959, to the effect that "no new State Colleges or campuses of the University, other than those already approved, shall be established until adequate Junior College facilities have been provided, the determination of adequacy to be based on studies made under the direction of the Liaison Committee of the State Board of Education and The Regents of the University of California . . . " with the further provision that the new state colleges and campuses of the University established by action of the Legislature in 1957, and by action of The Regents, also in 1957, be limited to upper division and graduate work until such time as adequate junior college opportunities are provided for the primary area served by these institutions.

2. The following full-time enrollment ranges be observed for existing institutions, for those authorized but not yet established, and for those later established:

Type of Institution	*Minimum*[1]	*Optimum*	*Maximum*
Junior Colleges	400	3,500	6,000*
State Colleges			
In densely populated areas in metropolitan centers	5,000	10,000	20,000
Outside metropolitan centers	3,000	8,000	12,000
University of California Campuses[2]	5,000	12,000	27,500

[1] These are to be attained within seven to ten years after students are first admitted.

[2] The minimum figure for the University assumes graduate work in basic disciplines and one or more professional schools.

* This maximum might be exceeded in densely populated areas in metropolitan centers.

3. The state give encouragement to making junior college facilities available for the school districts not now adequately served either through the establishment of new junior colleges or by making them a part of districts now served by junior colleges. Evidence at hand indicates that there is need for new junior colleges in the following school districts:

School districts to be included[1]	*County*	*1975 Full-time enrollment*[2]
San Diego City Unif. (additional campuses)	San Diego	6,500
Los Angeles J.C.(additional campus)	Los Angeles	6,000
Alhambra H.S., El Monte U.H.S., and Montebello Unif.	Los Angeles	5,000
Hayward U.H.S., Washington U.H.S., and San Leandro Unif.	Alameda	5,000
Whittier U.H.S.	Los Angeles	5,000
Sequoia U.H.S. and Pescadero U.H.S.	San Mateo	3,000
Anaheim U.H.S.	Orange	2,500
Campbell U.H.S., Live Oak U.H.S., and Santa Clara U.H.S.	Santa Clara	2,500
San Mateo J.C. (additional campuses)	San Mateo	2,500
Oxnard U.H.S. Moorpark Memorial U.H.S., Santa Paula U.H.S., Fillmore U.H.S., and Simi Valley Unif.	Ventura	2,500
Sweetwater U.H.S. and Coronado Unif.	San Diego	2,500
Grossmont U.H.S. and Mountain Empire Unif.	San Diego	2,250
Contra Costa J.C. (additional campuses Antioch and Moraga)	Contra Costa	2,250
Foothill J.C. (additional campus)	Santa Clara	2,000
Albany City Unif., Berkeley City Unif., and Emeryville Unif.	Alameda	1,500
All unified and high school districts in Merced and Madera counties	Merced-Madera	1,500
Burbank Unif.	Los Angeles	1,250
San Luis Obispo (county unit)	San Luis Obispo	1,000
Unified and high school districts in East Kern and Inyo counties	East-Kern-Inyo	950
Victor Valley U.H.S.	San Bernardino	550
Barstow J.C.	San Bernardino	400
Total—22 colleges		56,650

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[1] Abbreviations: H.S.—high school, U.H.S.—union high school, Unif.—unified, J.C.—junior college.

[2] 1975 enrollments have been substituted for the 1970 enrollments which appeared in the original list approved by the Joint Boards. The arrangement of this list in descending order of enrollment is not intended to indicate urgency of need in the same order.

4. New state colleges in addition to those already authorized be established and in operation *by 1965* in the following areas and in descending order of estimated enrollment potential:

Approximate location	*Estimated 1975 full-time enrollment potential*
In the vicinity of Los Angeles International Airport	19,900
In the San Bernardino-Riverside vicinity (vicinity of Rialto)	12,800

Although it is believed that these two institutions should be master planned for an ultimate capacity of 20,000, the Survey Team recommends that the 1975 enrollment be held to 10,000 and 8,000 respectively.

5. In 1965 and again in 1970, if applicable, and before considering the need for new state colleges in any other areas of the state, careful studies be made by the co-ordinating agency of the following State Economic Areas to determine the actual need for new state colleges that exists at the time each study is made:

State Economic Area	
F	Los Angeles-Long Beach Metropolitan area, Griffith Park-Glendale vicinity
A	San Francisco-Oakland Metropolitan area, vicinity of Redwood City
A	San Francisco-Oakland Metropolitan area, Contra Costa County
K	Bakersfield Metropolitan area, Kern County
7	South Coastal area, Ventura County

6. The three new campuses approved by The Regents in 1957—(a) San Diego-La Jolla area, (b) Southeast Los Angeles-Orange County area, and (c) the South Central Coastal area (Santa Clara, San Mateo, Santa Cruz, San Benito, and Monterey counties)—be completed without delay and in any event construction to be started not later than *1962*.

It is further recommended that the campus in each of the following locations be planned for 1975 enrollments as follows:

San Diego-La Jolla	7,500
Southeast Los Angeles-Orange County	12,500
South Central Coast	10,000

7. Inasmuch as the estimated enrollment potential of the Berkeley campus of the University is 43,950 for 1975 (as compared with a maximum enrollment of 27,500 as recommended in 2 above for a University campus, the co-ordinating agency undertake appropriate studies of how best to accommodate the difference between these figures (approximately 16,000), such steps to include careful study of these possibilities:

a. Diversion of some of these potential students particularly to the Davis campus and the new South Central Coast campus.

b. The accommodation of the remaining part of the difference (i.e., 16,000 less the impact of (a) above) through the establishment of branch installations from existing campuses in specialized fields of study such as instruction in science at Livermore. (These would be similar to the off-campus centers for teacher education now operated by certain of the state colleges.)

8. In 1965, and again where applicable in 1970, and before considering the need for new University facilities in any other areas of the state, careful studies be made by the co-ordinating agency of the need for additional University facilities in the San Joaquin Valley and the Los Angeles area. In the latter area special consideration should be given as to how the difference between the 1975 estimates of potential University enrollment of 52,550 and the 27,500 maximum for the University of California, Los Angeles, campus (some 25,000 students) can best be accommodated. Such consideration should include the following:

   a. To what extent will this difference be cared for by the new Southeast Los Angeles-Orange County campus, and to what extent could these potential students be diverted to the La Jolla, Riverside, and Santa Barbara campuses?

   b. Will there be a need for the establishment of branch installations in specialized fields of study from existing campuses in this area similar to that included in Recommendation 7b?

9. Because the University, among the publicly supported institutions in California, has the sole responsibility for the preparation for professions such as architecture, dentistry, law, librarianship (graduate), medicine, optometry, pharmacy, public health, and veterinary medicine, periodic studies be made of the relation of supply to demand, particularly in fields where there seem likely to be shortages, such as medicine and pharmacy, for the purpose of determining what steps the University should take to meet its responsibilities in these professional fields.

FACULTY DEMAND AND SUPPLY (See Chapter VII)

It is recommended that:

1. Much greater effort be made to divert a greater proportion of college graduates into graduate training preparatory to careers in college and university teaching. This diversion can best be accomplished by a concerted effort on the part of adequately staffed and supported counseling and guidance services at all levels of education, and with the full co-operation of all college and university faculty members.

2. More funds be secured to provide financial assistance to those in graduate training. The high attrition rate in graduate programs is, in large part, due to financial difficulty; and these withdrawals constitute not only a loss to the potential faculty supply but an economic waste to the state. Provision of fellowship and loan funds for graduate students is undoubtedly one of the best ways of reducing the attrition rate.

3. Greatly increased salaries and expanded fringe benefits, such as health and group life insurance, leaves, and travel funds to attend professional meetings, housing, parking and moving expenses, be provided for faculty members in order to make college and university teaching attractive as compared with business and industry.[10]

4. Greater use be made of California-trained doctoral degree holders, especially in the shortage years immediately ahead. For the three-year period 1955-58 only 53 per cent of those so trained who entered teaching did so in California. Evidence indicates that those leaving California do not do so by choice.[11]

5. Individual faculty members and their institutions jointly assume responsibility for both the initiative and opportunity for the faculty in-service preparation and self-improvement, so essential for the growth and development of the institutions.

6. Strengthening of the master's degree programs in all institutions offering such programs be undertaken by these institutions so that holders of this degree may be more effective additions to the faculties of colleges, universities, and junior colleges.[12]

7. Reorientation of present doctoral programs offered by California institutions be undertaken to insure that those receiving the degree and planning to enter college and university teaching possess the qualities not only of scholars, but of scholar-teachers. Because the University of California awarded 54.6 per cent of the doctorates given by California institutions for the period 1952-53—1955-56, it has a particular responsibility for the implementing of this recommendation.

8. Because of the continual change in faculty demand and supply, the coordinating agency annually collect pertinent data from all segments of higher education in the state and thereby make possible the testing of the assumptions underlying this report.[13]

ADULT EDUCATION IN CALIFORNIA (See Chapter VIII)

It is recommended that:

1. The "Guiding Principles for Adult Education in California's Publicly Supported Institutions" as revised by the State Advisory Committee on Adult Education in February, 1958, be continued as the policy framework within

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[10] As an example of the wide differences, of 44 persons awarded Ph.D.'s in shortage fields by the University of California in 1959, a total of 31 accepted positions in industry at an average salary of $9,884 and 13 went into college teaching at an average salary of $6,075.

[11] Of 44 doctor's degree holders recently placed in college and university teaching outside California by the School and College Placement Service of the University of California, Berkeley, 87 per cent had stated a preference for a position in California.

[12] This is of particular importance to the junior colleges because the highest degree held by 64.7 per cent of those newly appointed in the years 1957-58 and 1958-59 was the master's degree. Although all institutions in the state should co-operate in this effort, the lead should be taken by the state colleges and the University of California because of the high proportion of all such degrees they award.

[13] The 1958 report, prepared by the Joint Staff for the Liaison Committee and entitled *A Study of Faculty Demand and Supply in California Higher Education, 1957-1970*, contains a recommendation, approved by both boards, for its re-examination in 1960. A similar procedure should be followed with respect to this analysis.

which co-ordination is accomplished, such principles to be periodically examined in the light of changing conditions throughout the state.

2. The existing State Advisory Committee on Adult Education be responsible to the co-ordinating agency and continue the responsibilities delegated to it by action of the State Board of Education and The Regents of the University of California in 1953. Furthermore, that the co-ordinating agency, to which the Committee will annually report and to which it will make its recommendations, provide the Committee with necessary staff assistance.
3. In order for the State Advisory Committee to be more fully representative of agencies engaged in adult education, it be enlarged to include the following representatives, these to have the same length of terms as other members of this committee:
   a. A representative of the Agricultural Extension Service of the University of California to be appointed by the President of the University.
   b. A representative of the Independent Colleges and Universities of the state to be appointed by the Association of Independent California Colleges and Universities.
4. In the long-range plans for providing opportunities in higher education to the people of California provision for adequate state support of adult education services be assured. However, in this determination of what the state should support, effort be made to differentiate between those enrollees who are pursuing a stated planned program with definite occupational or liberal education objectives, and those who are enrolling in single courses for which matriculation or prerequisites are absent.

TOTAL ESTIMATED COSTS (See Chapter IX)

JUNIOR COLLEGE SUPPORT

It is recommended that:

1. Procedures be devised to assure that all funds allocated to and for junior colleges for current expense or for capital outlay by the state be expended only for junior college purposes, and further that the law be clarified to require that all funds received from county junior college tuition funds for use of buildings and equipment be expended solely for junior college purposes.
2. In view of the added local financial obligations, for both current expenses and capital outlay, which will result from the Master Plan Survey recommendations designed to divert to the junior colleges some 50,000 lower division students from the 1975 estimates for the state colleges and the University of California, and the attendant savings to the state resulting therefrom, the following actions be taken:
   a. Procedures and methods be devised and adopted by the Legislature that will increase the proportion of total current support paid to the junior colleges from the State School Fund (augmented for this purpose) from the approximately 30 per cent now in effect to approximately 45 per cent, to be achieved not later than 1975.

   b. A continuing program be devised and adopted by the Legislature that would distribute construction funds, either through grants or loans or both, for capital outlay purposes annually to junior colleges as determined by growth, this program being for the purpose of assisting junior colleges to meet the facility needs of projected enrollments and of the students to be diverted to the junior colleges.

3. All the territory of the state not now included within districts operating junior colleges be brought into junior college districts as rapidly as possible, so that all parts of the state can share in the operation, control, and support of junior colleges. Pending the achievement of this objective, means be devised to require areas that are not a part of a district operating a junior college to contribute to the support of junior college education at a rate or level that is more consistent with the contributions to junior college support presently made by areas included in districts that maintain junior colleges.

STUDENT FEES

For the state colleges and the University of California it is recommended that:

1. The two governing boards reaffirm the long established principle that state colleges and the University of California shall be tuition free to all residents of the state.[14]
2. Students who are residents of other states pay as follows:
   a. All students except those exempt by law pay tuition sufficient to cover not less than the state's contribution to the average teaching expense per student as defined by the Master Plan Survey Team's Technical Committee on Costs of Higher Education in the institution or system as follows:

   "Teaching expense is defined to include the cost of the salaries of the instructors involved in teaching for the proportion of their time which is concerned with instruction, plus the clerical salaries, supplies, equipment and organized activities related to teaching."

   b. Other fees for services not directly related to instruction.
3. Each system devise a fee structure and collect sufficient revenues to cover such operating costs as those for laboratory fees, health, intercollegiate athletics, student activities, and other services incidental to, but not directly related to, instruction.
4. The operation of all such ancillary services for students as housing, feeding, and parking be self-supporting. Taxpayers' money should not be used to subsidize, openly or covertly, the operation of such services. Because of the various methods which are used to finance construction of auxiliary enterprises such as residence halls and dormitories, it is impossible to state in general which portions of amortization and interest payments are properly chargeable to operating expense. Consequently, it is recommended further that the governing boards determine which of such costs are appropriate

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[14] The distinction between "tuition" and "fees" is as follows: "tuition" is defined as student charges for teaching expense, whereas "fees" are for charges to the students for services not directly related to instruction, such as health, counseling other than that directly related to the students' educational program, placement services, housing, recreation, and the like.

charges to operating expense and include as much as possible of those with other operating expenses of such ancillary services.

5. Additional provisions be made for student aid and loans, particularly as fees and nonresident tuition increase.
6. Periodically the governing boards recompute their per-student teaching expense and set nonresident tuition accordingly. Periodically they recompute the cost of operation of services such as feeding, housing, and parking, and set fees for such services accordingly.
7. Each institution retain moneys collected from nonresident tuition.
8. All the above policies when approved by the two governing boards be applicable immediately to the state colleges and the University of California, and that they be applied to the junior colleges as a matter of state policy and when applicable.

OTHER RECOMMENDATIONS

It is recommended that:

1. The foregoing recommendations, in the form approved by the two boards, be transmitted by the Superintendent of Public Instruction and the President of the University to the Governor and to the Legislature through the chairmen of the legislative committees on education.
2. The Superintendent of Public Instruction and the President of the University be requested to call to the attention of the Governor the desirability of including in any call for a Special Session of the Legislature in 1960 the consideration of those recommendations which require legislative action.[15]
3. On behalf of the two boards, the Superintendent of Public Instruction and the President of the University express to the Governor and the Legislature appreciation for this opportunity to place before them and the people of California the views of the two governing boards on how best to meet the difficult problems of higher education in the next decade.

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[15] See Appendix I for actions by the Special Session of the 1960 Legislature on the recommendations in this report which require legislative action.

CHAPTER II

ORGANIZATION AND PLAN FOR THE SURVEY

Because many of the recommendations contained in this report are either direct outgrowths of earlier studies or extensions of recommendations found in such studies, it is important to include some information on those studies which have had the greatest impact on higher education in California. This information is briefly outlined in the following sections of this chapter.

EARLIER STUDIES OF HIGHER EDUCATION IN CALIFORNIA

California like many states has long been concerned about its needs in higher education and the appropriate relationship among the various segments, so that its needs would be met in the most efficient and economical manner. As early as 1899, there was created the California Educational Commission of 70 members to study the state's educational program and to make recommendations for its improvement. Of interest today is the recommendation that legislation be enacted to provide "a uniform board for the governing of normal schools." This recommendation resulted in the enactment of a law which placed the normal schools under the State Board of Education.

In the intervening 60 years there have been many studies of education in California under legislative authority as well as others by the institutions themselves and other state agencies. Of particular significance in terms of their impact on the development of higher education in California are the following:

1. *The 1919 Study by a Joint Committee of the Legislature.* This report recommended that the state normal schools become state teachers' colleges. A statement which is of particular interest in the light of the basic issue of structure, functions, and co-ordination is the following:

> Whether this [appropriate co-ordination] can be arranged for best by a co-ordinating board, by consolidation under one board, or by some other plan, the Committee leaves to the future to decide.[1]

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[1] Report of the Special Legislative Committee on Education as authorized by Senate Concurrent Resolution No. 21 by the Forty-third Session of the Legislature of California, 1920, p. 65.

2. *State Higher Education in California.* This study, authorized by the Legislature in 1931 and generally known as the "Suzzallo Report,"[2] contained a recommendation which resulted in the enactment of a law in 1933 providing for the establishment of a State Council for Educational Planning and Co-ordination. The purpose of this Council was ". . . to study problems affecting the relationships between the schools of the public school system and the University of California and to make recommendations thereon jointly to the State Board of Education and The Regents of the University of California through the Superintendent of Public Instruction and President of the University of California."[3] Although the legislation creating this Council is still on the statute books, the committee has not met since 1945.

3. *A Report of a Survey of the Needs of California in Higher Education.* This report, authorized by the Legislature in 1947 and generally known as the "Strayer Committee Report,"[4] has exerted great influence on the development of higher education in California. One unique distinction of this report is that all of its recommendations were approved by the State Board of Education and all but one (for subsistence scholarships) by The Regents of the University of California.

4. *A Restudy of the Needs of California in Higher Education.*[5] This report resulted from a study authorized by the 1953 Legislature. It is the most comprehensive of the legislative studies, containing more than one hundred recommendations dealing with the major aspects of the state's program of higher education. Although space does not permit the listing of the major recommendations approved by the two governing boards, many references to them are made throughout this report.

5. *The Need for Additional Centers of Public Higher Education in California.*[6] This report, completed in 1956 and printed in 1957,

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[2] So called because Henry Suzzallo was then president of the Carnegie Foundation which made the study. The report was actually entitled *State Higher Education in California: Recommendations of the Commission of Seven*, June 24, 1932. Sacramento, California: California State Printing Office, 1932, pp. 29 and 31.

[3] Education Code, 1959, Sections 501 and 502.

[4] Monroe E. Deutsch, Aubrey A. Douglass, and George D. Strayer, *A Report of a Survey of the Needs of California in Higher Education.* Berkeley: University of California Press, 1948.

[5] T. R. McConnell, T. C. Holy, and H. H. Semans, *A Restudy of the Needs of California in Higher Education.* Sacramento: California State Department of Education, 1955.

[6] H. H. Semans and T. C. Holy, *A Study of the Need for Additional Centers of Public Higher Education in California.* Sacramento: California State Department of Education, 1957.

was not authorized directly by the Legislature. It was undertaken by the Liaison Committee of The Regents and the State Board of Education following passage by the 1955 Legislature of three Assembly bills, two Senate bills, five Assembly resolutions, four Senate concurrent resolutions and one Assembly concurrent resolution, all of which provided for studies of the need for state institutions of higher education in particular areas of the state. Of these 15 measures, 14 were for studies of state college needs and one for an additional campus of the University. This report, developed in conformity with a set of principles,[7] contains priority lists based on projected enrollments for the state colleges and the University. Of the four state colleges approved by the 1957 Legislature, three—Alameda, Stanislaus, and a college to serve the North Bay Area—were in the top seven of the state college priority list, and the three new campuses —Southeast Los Angeles-Orange County, South Central Coast, and San Diego—also approved by The Regents in 1957, are the top three in the University priority list. Chapter II of the Additional Centers [8] study gives further detail regarding the various efforts to co-ordinate higher education in the state.

In commenting on the principles around which the report was developed, the November, 1957 issue of the *Tax Digest*, published by the California Taxpayers Association, contained the following editorial comment: "Publicly supported higher education in California is one of the most costly activities of the State government. The sound principles stated by this Liaison Committee of The Regents of the University and the State Board of Education merit the support and backing of taxpayers."

CREATION OF THE LIAISON COMMITTEE

No action taken during the past half-century has had a greater impact on the development and direction of higher education than has the establishment of the Liaison Committee of the two boards, which was created by resolution in 1945. It is interesting to note that at this time the State Council on Educational Planning and Coordination ceased to function. Both the 1947 and the 1953 legislative studies mentioned earlier were conducted under the general direction of the Liaison Committee. As evidence of the confidence which the Legislature had in this committee, when the legislative committees in 1953 were considering whether there should be another study of higher education, there seemed to be general agreement that whatever study was authorized it would be under the direction of the Liaison Committee. Consequently, the legislation authorizing a restudy of the needs of California in higher education did not fix responsibility for making the study.

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[7] *Ibid.*, p. v.

[8] H. H. Semans and T. C. Holy, *A Study of the Need for Additional Centers of Public Higher Education in California*. Sacramento: California State Department of Education, 1957.

Further evidence of this confidence is found in the wording of the authority for this study, Assembly Concurrent Resolution No. 88, which requests "the Liaison Committee of the State Board of Education and The Regents of the University of California . . . to prepare a master plan for the development, expansion, and integration of the facilities, curriculum, and standards of higher education, in junior colleges, state colleges, the University of California, and other institutions of higher education of the State, to meet the needs of the State during the next ten years and thereafter. . . ." Although the Liaison Committee is entirely voluntary and can be terminated by action of either or both boards, it has been remarkably successful in having its recommendations approved by the two boards. Of 55 major recommendations transmitted to the two boards by the Committee since its creation in 1945 up to the beginning of this study in 1959, altogether 54 were approved by The Regents of the University of California and 53 by the State Board of Education; of 18 recommendations requiring legislative action, such action was taken on 16. Further proof of this success is found in the fact that all of the 63 recommendations of this present report were unanimously approved by both boards on December 18, 1959.

Despite the record of agreements reached, the present co-ordinating machinery has certain weaknesses, which are pointed out in Section B of the *Restudy* beginning on page 296. Among these are (a) inadequate representation of junior college interests, (b) the fact that the members of the Joint Staff represent the parties to the Liaison Committee (State Board of Education and The Regents of the University) rather than the Committee itself, and (c) ". . . its inability to provide continuing analyses of the extent to which agreements between the state colleges and the University have been carried out in practice." Moreover, since the co-ordinating machinery is voluntary, it has no power to insist that agreements reached by the two boards are actually observed.

ORIGIN AND PLAN OF MASTER PLAN SURVEY

Several factors combined to bring about the Master Plan Survey. Among these were the following:

1. The introduction in the 1959 Legislature of 23 bills, three resolutions and two constitutional amendments designed (a) either to establish or to study the need for new institutions, (b) change the functions of the existing institutions, and (c) change the present structure for the organization, control, and administration of publicly supported higher education in the state. It is important to note here that once agreement was reached on the form in which Assembly Concurrent Resolution No. 88 would be passed, both the Education Committees in the Assembly and Senate agreed to forego further consideration on any of these measures until the Master Plan Survey was completed.
2. The state's general finance picture and the necessity for the passage by the 1959 Legislature of several new tax measures.
3. Actions taken by the two governing boards in their joint meeting on April 15, 1959. Chief among these are the following declarations:
   a. The new campuses already approved for the state colleges and the University should be placed in operation as soon as the fiscal condition of the State will permit.
   b. No new state colleges or campuses of the University, other than those already approved, shall be established until adequate junior college facilities have been provided, the determination of adequacy to be based on studies made under the direction of the Liaison Committee.
   c. No new campus for the state colleges or for the University of California, other than those already approved, shall be established without prior approval of both boards.
   d. The Governor and the State Legislature be requested to approve only those bills and appropriation items which conform to this understanding.
   e. That the State Board of Education and The Regents of the University of California, in joint session assembled, endorse and recommend to the Legislature the passage of Assembly Concurrent Resolution No. 88.
   f. That the State Board of Education and The Regents of the University of California, in joint session, endorse in principle the idea of state

> assistance for capital outlay for junior colleges at such times as state finances permit.

Following these actions the California Assembly passed Assembly Resolution Number 242, which contains this statement:

> Resolved by the Assembly of the State of California that the Assembly commends the members of the State Board of Education and the Board of Regents of the University of California for this fine work and co-operation in respect to the problems presently confronting higher education.

4. Weakening of the voluntary co-ordinating machinery by certain unilateral actions taken by the boards in violation of existing agreements and on matters of mutual concern which had not first been considered by the Liaison Committee.

Since Assembly Concurrent Resolution No. 88 requests the Liaison Committee to develop a Master Plan for Higher Education in the state, that committee, immediately after the April 15, 1959, joint meeting of the two boards, when endorsement was given to the pending Assembly Concurrent Resolution No. 88, began to develop a plan for the study. In the development of this plan two items were of particular significance: (1) the decision of legislative leaders not to appropriate any money for the study, and (2) the shift of the completion date from 1961 to February 1, 1960.

In view of these and other factors taken into account, the Liaison Committee at its meeting on June 3, 1959, recommended to the parent boards the following plan of organization for the study:

> 1. The Liaison Committee shall be responsible for directing the basic study required by Assembly Concurrent Resolution No. 88, and by the April 15, 1959, action of the two boards.
>
> 2. When matters pertaining to the study are under consideration, the Liaison Committee will invite to sit with it, in an advisory capacity, members of the Senate and Assembly designated by those bodies, and representatives of the State Department of Finance and the Legislative Analyst.
>
> 3. The study committee for the Master Plan shall consist of the two members of the Joint Staff, augmented by
>   a. A chairman, agreed to by the Superintendent of Public Instruction and the President of the University.
>   b. A representative of the State Colleges nominated by the Superintendent of Public Instruction and approved by the State Board of Education.
>   c. A representative of the University of California nominated by the President of the University and approved by The Regents.

d. A representative of the Junior Colleges, selected by joint agreement of the Superintendent of Public Instruction and the President of the University from a panel of three nominated by the California Junior College Association.

4. The Joint Advisory Committee shall continue to be, as determined at the time of its creation by the Liaison Committee: ". . . advisory to the Superintendent of Public Instruction, the President of the University, and the Joint Staff of the Liaison Committee." Its members shall not be eligible to serve on the study committee.
5. The study committee shall submit progress reports, at least monthly, to the Liaison Committee with copies to the Joint Advisory Committee, and a representative or representatives of the study committee shall be invited to the meetings of the Liaison Committee when these reports are discussed. The Joint Advisory Committee shall be asked to comment on and to make recommendations concerning these progress reports in advance of their discussion by the Liaison Committee. These comments and recommendations shall be made to the Superintendent of Public Instruction and the President of the University, who shall transmit them to the Liaison Committee.

The above recommended plan was approved by The Regents in June, 1959, and by the State Board of Education in July, 1959. By subsequent action the plan was modified to add to the study committee (later designated as the Master Plan Survey Team) a Joint Staff member to represent the junior colleges to be selected by the California Junior College Association and a representative of the independent institutions in the state to be selected by the Association of Independent California Colleges and Universities.

PROBLEMS TO BE STUDIED

In addition to the general plan of organization for the study, the Liaison Committee at its June 3, 1959, meeting accepted as a guide and general outline the following problems to be included in the Master Plan study:

A. What is the size of the student enrollments in higher education in California to be served by 1975, and how will they be distributed among the State's junior colleges, state colleges, private colleges, and the University of California?

   1. Should admission requirements be modified to change this distribution?
   2. What are the enrollment projections by years to 1975 for existing individual state colleges and campuses of the University of California? What are these projections as modified by the Master Plan?

B. What should be the appropriate differentiation of functions among the junior colleges, state colleges, and the University of California in the light of present and prospective circumstances?

C. What is the recommended priority list and time schedule for establishing new University and state college campuses? This priority list should designate the approximate location of each included institution. In what areas in the State are there needs now and by 1970 for additional junior college facilities?

D. What is the estimated cost to the State for public higher education in the decade ahead for both capital outlay and annual operation? (These estimates should take into account the Master Plan priority list.)

1. What proportion of the cost of junior college education for both operation and capital outlay should be borne by the State and what proportion by the local districts? Is there a need for a change of present State policy with respect to the support of junior colleges?
2. How many lower division students who would normally enroll in a state college or campus of the University can be shifted to the junior colleges, and how can the districts meet additional costs resulting therefrom?
3. How much of the cost of public higher education should be borne by the students? Should the present fee structure be altered?
4. What economies can be effected in the operation of the existing institutions? Consideration should be given to economies in current operation, in capital outlay, and in the use of present physical facilities.

E. What is California's ability to pay for the future development of public higher education in the State?

1. What proportion of the State's budget has been and is now allocated for the support of public higher education? How does this compare with the efforts made to support public higher education in other states?
2. What are the probable supplemental (non-State) resources for financing public higher education in California which might be tapped?

F. What plan is recommended for the organization, control, and administration of publicly supported higher education in California?

1. What criteria should be met by the plan recommended, and what specific functions should it serve?
2. How should the recommended plan be implemented?

TECHNICAL COMMITTEES

On recommendation of the Survey Team, the Liaison Committee at its July 8, 1959, meeting approved establishing technical committees to study each of the following areas and to report to the team regarding the results of their studies:

Enrollment Projections
Selection and Retention of Students
California's Ability to Finance Higher Education
Costs of Higher Education

Institutional Capacities and Area Needs
Adult Education.[9]

The membership of the various committees involved in the study and their relationship one to the other are shown in Figure 1. It will be seen from this chart that the technical committees are directly responsible to the Master Plan Survey Team, which in turn is directly responsible to the Liaison Committee, the committee which in the words of Assembly Concurrent Resolution No. 88 is requested to "prepare a master plan." It will be further noted from the figure that the representatives of the Legislature and other state agencies are advisory to the Liaison Committee and that the Joint Advisory Committee is advisory both to the Liaison Committee and the Master Plan Survey Team.

A comparison of the major items in the general plan of the study with the areas covered by technical committees will show three major areas not included in the committee assignments. These are differentiation of functions, recommended priority lists for the establishment of new institutions, and the structure, function, and co-ordination of publicly supported higher education in the state. The first of these was assigned to the Joint Advisory Committee whose membership was augmented for the duration of the study by the appointment of the presidents of four independent institutions. This committee, like the technical committees, submitted its report directly to the Master Plan Survey Team. The priority list was developed jointly by the Technical Committee on Institutional Capacities and Area Needs and the Survey Team. The third major area—structure, function and co-ordination—was dealt with directly by the Survey Team.

FINANCIAL SUPPORT AND STAFF ASSISTANCE

The Department of Finance made available $21,000 from its emergency fund to pay for the services and expenses of the Joint Staff member added to represent the junior colleges and the representative of the independent institutions on the Master Plan Survey Team and for the travel expenses of committee members from the junior colleges and the independent institutions. Other assistance, both in terms of funds and staff, was furnished by the University of California and the State Department of Education.

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[9] To make the study in this field the Liaison Committee approved appointing the existing State Advisory Committee on Adult Education, which is one of the permanent committees in the co-ordinating machinery.

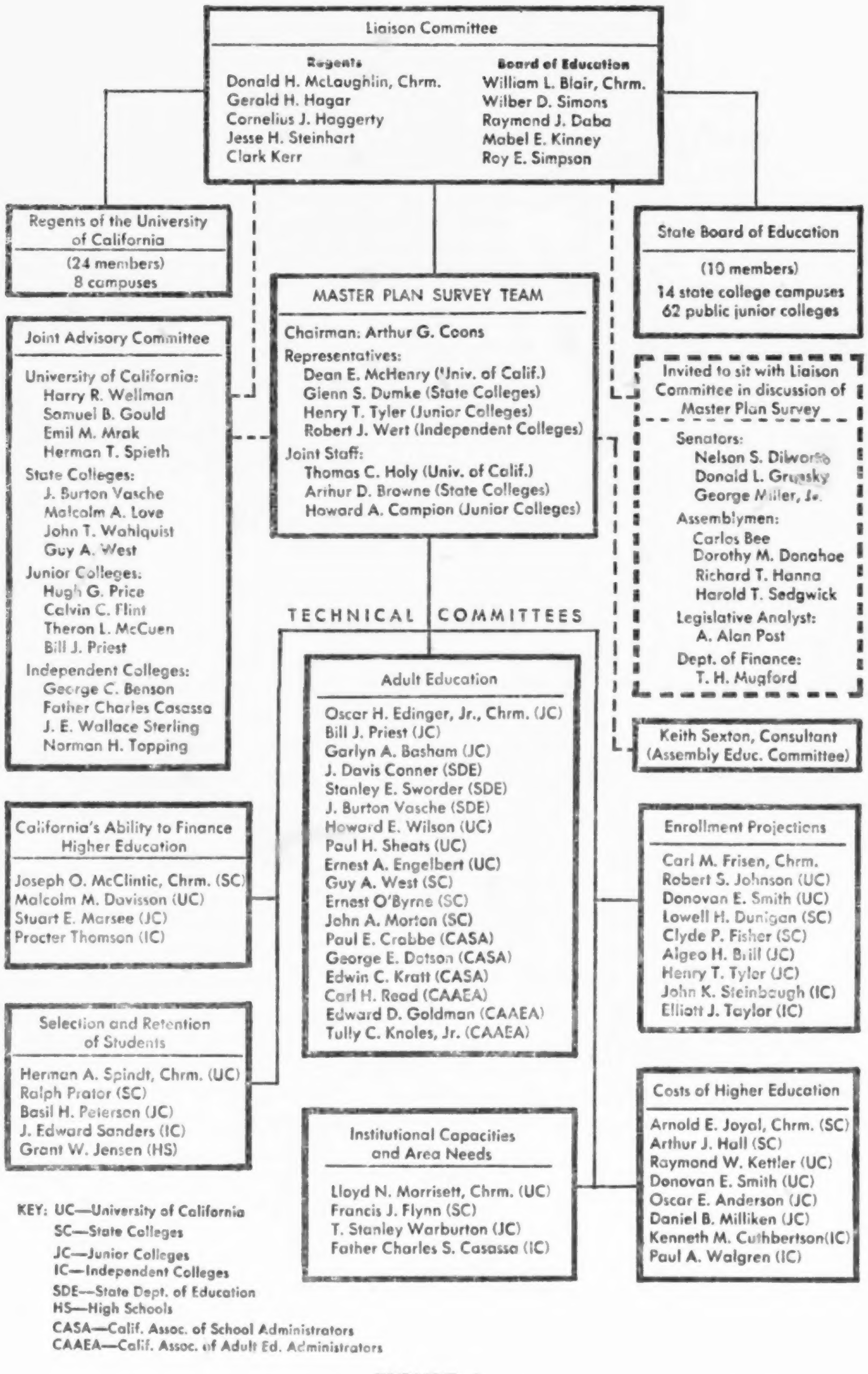
Liaison Committee
Regents
Donald H. McLaughlin, Chrm.
Gerald H. Hagar
Cornelius J. Haggerty
Jesse H. Steinhart
Clark Kerr
Board of Education
William L. Blair, Chrm.
Wilber D. Simons
Raymond J. Daba
Mabel E. Kinney
Roy E. Simpson
Regents of the University of California
(24 members)
8 campuses
State Board of Education
(10 members)
14 state college campuses
62 public junior colleges
MASTER PLAN SURVEY TEAM
Chairman: Arthur G. Coons
Representatives:
Dean E. McHenry (Univ. of Calif.)
Glenn S. Dumke (State Colleges)
Henry T. Tyler (Junior Colleges)
Robert J. Wert (Independent Colleges)
Joint Staff:
Thomas C. Holy (Univ. of Calif.)
Arthur D. Browne (State Colleges)
Howard A. Campion (Junior Colleges)
Joint Advisory Committee
University of California:
Harry R. Wellman
Samuel B. Gould
Emil M. Mrak
Herman T. Spieth
State Colleges:
J. Burton Vasche
Malcolm A. Love
John T. Wahlquist
Guy A. West
Junior Colleges:
Hugh G. Price
Calvin C. Flint
Theron L. McCuen
Bill J. Priest
Independent Colleges:
George C. Benson
Father Charles Casassa
J. E. Wallace Sterling
Norman H. Topping
Invited to sit with Liaison Committee in discussion of Master Plan Survey
Senators:
Nelson S. Dilworth
Donald L. Grunsky
George Miller, Jr.
Assemblymen:
Carlos Bee
Dorothy M. Donahoe
Richard T. Hanna
Harold T. Sedgwick
Legislative Analyst:
A. Alan Post
Dept. of Finance:
T. H. Mugford
Keith Sexton, Consultant (Assembly Educ. Committee)
TECHNICAL COMMITTEES
Adult Education
Oscar H. Edinger, Jr., Chrm. (JC)
Bill J. Priest (JC)
Garlyn A. Basham (JC)
J. Davis Conner (SDE)
Stanley E. Sworder (SDE)
J. Burton Vasche (SDE)
Howard E. Wilson (UC)
Paul H. Sheats (UC)
Ernest A. Engelbert (UC)
Guy A. West (SC)
Ernest O'Byrne (SC)
John A. Morton (SC)
Paul E. Crabbe (CASA)
George E. Dotson (CASA)
Edwin C. Kratt (CASA)
Carl H. Read (CAAEA)
Edward D. Goldman (CAAEA)
Tully C. Knoles, Jr. (CAAEA)
California's Ability to Finance Higher Education
Joseph O. McClintic, Chrm. (SC)
Malcolm M. Davisson (UC)
Stuart E. Marsee (JC)
Procter Thomson (IC)
Enrollment Projections
Carl M. Frisen, Chrm.
Robert S. Johnson (UC)
Donovan E. Smith (UC)
Lowell H. Dunigan (SC)
Clyde P. Fisher (SC)
Algeo H. Brill (JC)
Henry T. Tylor (JC)
John K. Steinbaugh (IC)
Elliott J. Taylor (IC)
Selection and Retention of Students
Herman A. Spindt, Chrm. (UC)
Ralph Prator (SC)
Basil H. Peterson (JC)
J. Edward Sanders (IC)
Grant W. Jensen (HS)
Institutional Capacities and Area Needs
Lloyd N. Morrisett, Chrm. (UC)
Francis J. Flynn (SC)
T. Stanley Warburton (JC)
Father Charles S. Casassa (IC)
Costs of Higher Education
Arnold E. Joyal, Chrm. (SC)
Arthur J. Hall (SC)
Raymond W. Kettler (UC)
Donovan E. Smith (UC)
Oscar E. Anderson (JC)
Daniel B. Milliken (JC)
Kenneth M. Cuthbertson(IC)
Paul A. Walgren (IC)
KEY: UC—University of California
SC—State Colleges
JC—Junior Colleges
IC—Independent Colleges
SDE—State Dept. of Education
HS—High Schools
CASA—Calif. Assoc. of School Administrators
CAAEA—Calif. Assoc. of Adult Ed. Administrators

FIGURE 1
Organization for the Master Plan Survey of Higher Education in California

NATURE OF THE SURVEY REPORTS

Rather than a single report which would include the substance of the technical committee reports and consequently be large in size, several reports were decided on as follows:

1. A separate summary report prepared by the Master Plan Survey Team for the Liaison Committee to include the major findings, conclusions, and recommendations, and to include only a minimum of supporting data.
2. Separately bound reports by each of the technical committees. These include supporting evidence for the conclusions and recommendations found in the summary report.

Within the general plan of the study as approved by the Liaison Committee and the two governing boards, the Master Plan Survey Team made general assignments to the technical committees. In addition, a member of the Survey Team was appointed as advisor to each of the committees and some general suggestions on format, paging, table numbering, and the like were sent them. Beyond these, however, the committees were free to develop their reports as they saw fit.

CHAPTER III

STRUCTURE, FUNCTION, AND CO-ORDINATION

The task of the Survey Team has been to obtain a formula that will seek two objectives. First, it must guard the state and state funds against unwarranted expansion and unhealthy competition among the segments of public higher education. Second, it must provide abundant collegiate opportunities for qualified young people and give the segments and institutions enough freedom to furnish the diverse higher educational services needed by the state.

Although structure, function, and co-ordination are each sufficiently important to warrant a separate chapter, they are discussed together because of their intimate interrelationship. As the Survey proceeded, it became obvious that no one of the three problems could be settled alone; the solution of each required determinations for the other two. Long negotiations and extensive consultation produced a delicately balanced consensus among the three segments. The agreement that has been reached is essentially a "compact"; it must be fostered and refined, and care must be exercised that modifications do not emasculate it.

A "package" acceptable to all segments required compromises. Frank recognition of the needs and desires of each segment and of relative priorities among them was an essential starting point. The junior colleges sought fuller recognition of their role and a mechanism to arrest the projected decline in their proportion of lower division students. The state colleges wanted "the efficiency of freedom" to manage their own affairs, the authority to enter the research field, and a potential role in graduate education beyond the master's level. The University wanted to expand in proportion to the growth of the state and was concerned lest changes undermine its quality standards for graduate and professional education and jeopardize its premier role in advanced training and research. All segments, plus the independent colleges and universities and the general public, have an obvious stake in setting up a co-ordinating agency to collect facts and figures, to check compliance with agreements, and to act as a "watchdog" in preventing duplication and in assuring optimum utilization of facilities and maximum quality at minimum cost.

THE QUEST FOR PROPER ORGANIZATION

The machinery for governing state-supported higher education in California has been about as diverse as could be conceived. The junior colleges, although regulated by state law and financed in part by state funds, have been highly decentralized and have answered primarily to the local districts that created them and provide most of their support. The state colleges have been subject to some direct control by several state agencies to the extent that many functions that are normally in the province of a governing board have been in the hands of officers in other departments of government. The structure of the University of California has long been marked by two characteristics: substantial autonomy from direct state controls and centralization of administrative authority on state-wide rather than on local campus levels.

Considerable diversity in organizational pattern would remain even if each segment were assigned an "ideal" internal mechanism. Nevertheless, many common characteristics and requirements of the three segments suggest a need for more similarity in structure and procedures. Each requires, in differing degrees, the efficiency and quality control that a central administration can give and also the local initiative and community orientation that are hallmarks of well-conceived decentralization.

Underlying much of the following exposition on the government of higher education is a conviction, shared by all members of the Survey Team, that educational policy ought to be free from political interference and external controls. This conviction has been effectively stated in the report of the Committee on Government and Higher Education as follows:

> . . . effective, responsible management of the academic institution is more likely to result from giving authority to strong, able boards of lay trustees than by scattering managerial responsibility among various agencies of state government. Boards of trustees should of course have not only responsibility but accountability as well.[1]

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[1] *The Efficiency of Freedom. Report of the Committee on Government and Higher Education.* Milton S. Eisenhower, Chairman. Baltimore: Johns Hopkins Press, 1959, p. vi.

JUNIOR COLLEGES

The junior colleges have been, and ought to be, community based and locally controlled. However, they are part of the public school system; they exercise a state function; and they are financed with substantial amounts of state funds. Consequently, general goals and standards should be set forth in the Education Code so that the state has authority to enforce the legal provisions pertaining to them.

No real reduction of local autonomy is proposed by the Survey Team; however, it does suggest setting up uniform rules to cover several matters in which school districts previously have adopted their own procedures. For example, these suggestions include the definition of legal residence for nonresident tuition purposes and the standardization of probation and dismissal practices. The local board should remain the governing body, with the decided balance of control.

A majority of the Survey Team believes that most junior colleges should be operated by boards of their own rather than by unified or high school district boards. The chances of obtaining a faculty of college caliber, students of maturity, and added collegiate prestige appear to be greater when junior colleges are operated by junior college boards.

Although local authorities have been permitted very largely to control their activities, the junior colleges could use somewhat more attention than they have been receiving from the state agencies that are charged by law with making rules and regulations for them. If relieved of responsibilities for the State College System, as the Survey Team recommends, both the State Board of Education and the Superintendent of Public Instruction should have opportunity to give additional attention and positive leadership to this large and important segment of higher education.

STATE COLLEGES

With regard to their control, the state colleges have occupied a middle ground between that of the decentralized control of junior colleges and the centralized control of the University of California. Authority over them has been fragmented, with most of it nominally vested in the Superintendent of Public Instruction and the State Board of Education. However, much control has been exercised also by the Department of Finance, the Public Works Board, the State Personnel Board, the Division of Architecture, and other agencies. The Legislature itself commonly has taken the initiative in establishing new colleges and locating them. Lacking a governing board that can give them undivided attention or that has full power over them, the state colleges have received a large measure of their leadership from their presidents.

In the opinion of the Survey Team, the state colleges should be placed under the control of a governing board and should be centrally administered by a chief executive officer who would have real authority but be responsible to the board. The board should be an independent one, created by a constitutional amendment that clearly spells out the division of labor among the public segments of higher education and provides co-ordinating machinery through which all segments could consult and settle jurisdictional questions.

The state colleges have been most in need of freedom from detailed and sometimes conflicting state administrative controls. With the creation of an independent governing board and the appointment of a state-wide executive officer, the State College System would be "tooled up" to accept the responsibility that comes with authority. The degree of autonomy should be substantial, but substantial autonomy in no way implies that the Legislature or the Governor should abdicate their ultimate control over the level of support. The new board should have full responsibility for funds appropriated to the system and for its internal policies. Reports should be made by the board, and it should be subject to post-audit of its financial transactions. Line-item, pre-audit, and other detailed fiscal controls by the State Department of Finance should be terminated; full fiscal authority should be vested in the governing board. Doing so would not necessarily mean greater expenditures but would mean rather that the money would be spent for purposes educators deem the most essential.

To carry out recommended changes will require more centralization in the state college state-wide administration. A central staff of business and academic officers must be assigned such tasks as setting standards of performance and checking compliance. The initial complement of additional state-wide personnel probably need not exceed the full-time equivalent (FTE) of those in various departments now providing services to the state colleges. But the power and responsibility must rest with the governing board, which should be comparable in autonomy, composition, and terms of office to The Regents of the University.

UNIVERSITY OF CALIFORNIA

The University traditionally has been both autonomous and centralized. Its autonomy derives from the State Constitution, which makes it "a public trust" and vests its government in The Regents. Much of its distinction has been made possible, in the opinion of the Survey Team, by the independence and stability that come from its autonomous position and the long terms of the appointive Regents. The ex officio membership of the Governor, Lieutenant-Governor, and Speaker provides a built-in co-ordination with the executive and legislative branches of government.

Designed to conduct the affairs of a single institution, the University administration adapted rather slowly to fit the changed circumstances that followed establishment of new campuses in various sections of the state. Chief campus officers, now called chancellors on general campuses, were given added authority and status, and decentralization of business and fiscal operations has proceeded rapidly since 1958. The Academic Senate, to which The Regents have delegated responsibility for important educational matters, has set up divisional units on each general campus, still retaining sectional machinery in northern and southern California, and recently has expanded its state-wide organization for purposes of co-ordination.

The Survey Team has been careful not to recommend any changes that might encourage tampering with the constitutional autonomy of the University. Article IX, Section 9 of the State Constitution must be preserved; chipping away at the foundations on which the quality of the University rests should not be countenanced. Inside the University, however, much remains to be done to achieve proper administrative balance between the central whole and the operating campuses. Individual campuses need a larger measure of initiative in operations; officers with state-wide responsibility should not have administrative line controls over local campus functions. Final authority over University policies and operation rests with The Regents and the President, as it should, but University operation will benefit from appropriate division of labor between the state-wide offices and the local offices. Increasingly, the state-wide administration should be charged with developing central policy, setting budgetary standards, and co-ordinating programs.

CONCLUSIONS ON STRUCTURE

After the first months of consideration, the Survey Team concluded that three major possibilities for restructuring the state higher education deserved more thorough consideration: (1) a single governing board for both the state colleges and the University; (2) a superboard over the governing boards; and (3) two separate but parallel autonomous governing boards. For reasons given in the following paragraphs, the first two were rejected and the third adopted.

Initially, a good deal of attention was given to the possibility of placing both the University and the state colleges under a single governing board. Throughout the study some members of the Survey Team have insisted that they would advocate a one-board plan unless the differentiation of function could be spelled out in some secure form. Other members of the Survey Team preferred stronger co-ordination plans rather than a single governing board.

The one-board plan was the chief alternative to the separate but parallel boards that was suggested in the December 18, 1959, joint meeting of The Regents and the State Board of Education when the "compact" was finally approved. At no time, however, did a specific version or draft of a single-board plan receive wide acceptance. Some University people undoubtedly thought of The Regents as the one board—perhaps slightly enlarged. Some state college people anticipated a wholly new board, with no carry-over members. Most proponents assumed that the constitutional autonomy of The Regents would extend to the single board.

The one-board plan was abandoned because it might result in (1) loss of the benefits of countervailing power and lead to concentration of enormous authority in a single board; (2) opening up the possibility of a leveling effect, without net gain and perhaps with some net loss in over-all distinction of the institutions involved; (3) lessening the amount of attention board members could devote to a given problem because of their responsibility being spread over such a huge system, making the board in effect legislative rather than governing; (4) neglect of some aspects of higher education; and (5) leaving the junior colleges out of the co-ordination.

As an alternative to a single governing board, a superboard standing above the existing governing boards in matters of common concern was given consideration. Such a board of higher education might follow the Texas or Oklahoma patterns. Lyman A. Glenny, in *Autonomy of Public Colleges: The Challenge of Co-ordination,*[2] reports that nearly all systems of co-ordination established since 1950 are of the multiboard, co-ordinating agency type, with co-ordination provided by a superboard. In practice, he found that this type of co-ordination does not afford individual institutions more initiative and freedom than do state-wide governing boards.

Circumstances peculiar to California make the superboard difficult to establish here. The University of California has autonomy guaranteed under Article IX, Section 9, of the State Constitution. A superboard could not be established over The Regents without constitutional amendment. The Survey Team agreed that the status of the University should not be tampered with and, moreover, that a constitutional change opposed by one segment was unlikely to be adopted.

Having weighed these circumstances and other disadvantages of the first two plans, the Survey Team in October, 1959, put aside these plans and turned its attention to putting together a "package" that would achieve the optimum educational service to the state. The fact became increasingly obvious that the majority on one and perhaps both boards would oppose a one governing board plan. The risks to University independence, if Article IX, Section 9, of the State Constitution came up for amendment, appeared very great. Then came the breakthrough of early December, 1959, when, for the first time, representatives of the state colleges and the University were able to agree on the general terms of a compact designed to settle the outstanding problems of machinery of government, division of labor, and co-ordination. The text of that agreement, as subsequently approved by the State Board of Education and The Regents of the University, appears in the recommendations at the end of this chapter.

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[2] Lyman A. Glenny, *Autonomy of Public Colleges: The Challenge of Co-ordination.* New York: McGraw-Hill Book Co., 1959, p. 264.

The Survey Team, having presided over the formulation of this compact, supports it unanimously and vigorously. It has enormous advantages over the existing situation, which is marked by undue competition, fragmented responsibility, unnecessary duplication, and lack of co-ordination. An unprecedented number of young people are just about to reach college age; demands will be made for huge amounts of funds for operations and capital outlay. The Survey Team is convinced that if this compact is put into effect it will engender efficient and economical operation of all three segments of public higher education. California simply must put its higher educational house in order.

The Functions of the Segments

The values of division of labor are widely recognized—in the home, in the labor force, and among the nations of the world. They received at least implied recognition in higher education when California in its first years of statehood provided for both a state university and a state normal school. Until after World War I, few jurisdictional questions arose among the University, the teacher-training institutions, and the junior colleges that made their appearance beginning in 1907.

Initially, the University provided all state-supported higher educational services except teacher training, which it shared with the normal schools. The University long demonstrated a reluctance to launch general campuses in other parts of the state, even though it made the decision to expand into a second metropolitan area in 1919, when The Regents accepted the Legislature's offer to transfer the Los Angeles Normal School.

Meanwhile the normal schools—later the state teachers colleges, and still later the state colleges, paralleling developments in other states—expanded in numbers, in enrollments, and in curricular offerings. They added to teacher training both vocational-occupational education and general liberal education. After World War II they expanded enormously, with new colleges, broader curricula, and graduate work through the master's degree. Despite stress on functional differentiation, the undergraduate programs of the state colleges and the University appeared increasingly similar.

The junior colleges also grew rapidly. From the beginning they recognized dual purposes—transfer and terminal. The late William Henry Snyder, a pioneer in the junior college movement, once stated its aims:

> The junior college is generally conceded to have two rather distinct functions. One of these is to duplicate the curricula of the first two years of the university. . . . The other is to be of service to that great group of high school graduates who feel that they have not the time, money, or academic desire to spend four more years in study.[3]

By the time of the Strayer study, the problem of division of labor among the public segments was becoming acute. The report stated one principle of differential functions:

> The vocational or occupational level for which training is provided by these [state college] curricula lies between the level that can be supplied by the two-year training of the junior colleges and the professional schools of the University.[4]

The staff of the *Restudy,* convinced that the principle of differentiation was sound, recommended:

> . . . that the junior colleges continue to take particular responsibility for technical curriculums, the state colleges for occupational curriculums, and the University of California for graduate and professional education and research.[5]

Both studies recognized that many similarities of function would occur. All three segments, for example, share general education at the lower division level, and both the state colleges and the University engage in teacher training. Indeed, the similarities are often more striking than the differences.

In practice, differentiation of functions has been difficult to enforce. In 1953 substantial agreement was reached on the division of engineering education between the state colleges and the University, but by 1959 it was honored in the breach as well as in the observance. Reasons for the breakdown are numerous. Agreements were often thought to be one-sided, imposed by the University on the state colleges. Some people argue that static arrangements are unsuitable for dynamic situations imposed by the changing needs of society. Some agreements or understandings made by the two boards have been nullified by legislative action or by a particular institution.

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[3] *A New Type of College Training: An Illustrated Symposium of the Los Angeles Junior College Semi-professional Curricula.* Los Angeles: Los Angeles Junior College, 1932, p. 5.

[4] Monroe E. Deutsch, Aubrey A. Douglass, and George D. Strayer, *A Report of the Survey of the Needs of California in Higher Education.* Berkeley: University of California Press, 1948, p. 26.

[5] T. R. McConnell, T. C. Holy, and H. H. Semans, *A Restudy of the Needs of California in Higher Education.* Sacramento: California State Department of Education, 1955, p. 89.

The problem of functions was referred to the Joint Advisory Committee[6] in March, 1959, three months before the Survey Team came into being. After the Survey was launched, the team asked the Joint Advisory Committee to continue its work on the problem. Its report, entitled "Public Higher Education in California, Functions of the Junior Colleges, State Colleges, and the University of California," was completed October 13, 1959. The Joint Advisory Committee was unable to reach agreement on the most controversial issue: the proposal to permit the state colleges to award the doctorate. It finally proposed the appointment of a commission to study the need for additional college teachers and the best ways to meet the need.

Utilizing the Joint Advisory Committee statement, the Survey Team formulated a briefer statement of functions for inclusion in the proposed constitutional amendment on structure, function, and co-ordination. As recommended by the Survey Team and approved in principle by the Liaison Committee, and by the State Board of Education and The Regents in joint session on December 18, 1959, the functions are as follows: (These also appear as a part of the proposed constitutional amendment at the end of this chapter).

> Said public junior colleges shall offer instruction through but not beyond the 13th and 14th grade level, including but not limited to one or more of the following: (a) standard collegiate courses for transfer to higher institutions; (b) vocational-technical fields leading to employment, and (c) general or liberal arts courses. Studies in each field may lead to the Associate in Arts or Associate in Science degree. . . .
>
> The state colleges shall have as their primary function the provision of instruction in the liberal arts and sciences and in professions and applied fields which require more than two years of collegiate education, and teacher education, both for undergraduate students and graduate students through the master's degree. The doctoral degree may be awarded jointly with the University of California, as hereinafter provided. Faculty research, using facilities provided for and consistent with the primary function of the state colleges, is authorized. . . .
>
> The University shall provide instruction in the liberal arts and sciences, and in the professions, including teacher education, and shall have exclusive

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[6] On recommendation of the Liaison Committee the State Board of Education at its meeting on December 17, 1958, and The Regents of the University at their meeting on December 19, 1958, approved the creation of the Joint Advisory Committee, which consists of four representatives each of the junior colleges, the state colleges, and the University of California. The Committee is advisory to the Superintendent of Public Instruction, the President of the University, and the Joint Staff for the Liaison Committee.

> jurisdiction over training for the professions (including but not by way of limitation)[7] dentistry, law, medicine, veterinary medicine, and graduate architecture. The University shall have the sole authority in public higher education to award the doctor's degree in all fields of learning, except that it may agree with the state colleges to award joint doctoral degrees in selected fields. The University shall be the primary state-supported academic agency for research, and The Regents shall make reasonable provision for the use of its library and research facilities by qualified members of the faculties of other higher educational institutions, public and private.

Writing a statement of functions into the Constitution will bring about real advantages. Not only will the differentiation of functions have the force of law, but also the difficulty of amendment will give a new area of stability to public higher education. Enforcement, the weakest link in the old liaison machinery, can be achieved by legal processes. The knotty problem of the doctorate is settled without denying participation to the state colleges, yet providing assurance that high standards will prevail. Sharing of library and research facilities can augment scholarly production and assure fuller use of cultural assets without great extra cost to the state. Inclusion in the Constitution of a definition of functions should help greatly in eliminating duplication and provide a standard that can be used by each segment to judge which of its programs are marginal or peripheral to its functions.

If this statement of functions is written into the Constitution, the question arises as to whether the boards should adopt additional and more detailed ones, such as the one prepared by the Joint Advisory Committee. The Survey Team approved with some amendments the greater part of the Joint Advisory Committee statement, and favorable action was taken on the recommended version by the Liaison Committee on December 17, 1959. (This statement on functions as amended by the Survey Team appears in Appendix II to this report.) The statement was removed from the agenda of the joint boards on December 18. The team suggests that the Joint Advisory Committee report be referred by the Liaison Committee to the new Co-ordinating Council when it is established and that the section of the report entitled "Extension Programs and Adult Education" be referred by the Committee to the State Advisory Committee on Adult Education.

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[7] The draft of the proposed constitutional amendment, by mutual agreement, omits the phrase "including but not by way of limitation."

THE MACHINERY OF CO-ORDINATION

The Liaison Committee since 1945 has had a remarkable record of agreements reached, but the fact is increasingly obvious that enforcement will require more sanctions than are available at present. If the demands of the state for rational development and maximum economy in higher education are to be met, the co-ordinating agency will require considerable influence.

Early in its work the Survey Team's attention was called to an opinion of the Legislative Counsel (Kleps to Donahoe, August 27, 1959, No. 239), which indicated that a strong co-ordinating body could not be established by statute, even though The Regents consented. Proceeding on the assumption that a constitutional amendment is unlikely to pass if opposed by any one segment, the team then undertook to work out the composition of a co-ordinating agency that would be acceptable to all segments.

Assuming that the state colleges and the University would be represented through two separate governing boards, the team gave attention to appropriate representation of the junior colleges and the independent institutions. The State Board of Education will continue to be the chief state policy body concerned with the junior colleges; however, the junior colleges are primarily locally based and their most authentic spokesmen are from associations composed of local board members and administrators, not state agencies. Independent higher education is also difficult to represent, for its organizations are private associations. The team recognized the justice of participation by junior colleges and independent institutions, particularly when decisions affecting them are being made, but found no simple way to arrange representation and voting privileges.

From the beginning considerable sentiment existed for an agency of co-ordination with "public" members not connected with any segment of higher education. States with strong co-ordinating boards (New Mexico, Oklahoma, and Texas) are composed exclusively of "public" members, appointed by the Governor. Two recently organized agencies have part "public" (Wisconsin, four of fifteen, Utah six of nine) and part segmental. The pattern of voluntary co-ordination in Ohio, Indiana, and California is to have all members drawn from or chosen by the segments.[8]

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[8] For a careful analysis of co-ordinating plans, see Lyman A. Glenny, *Autonomy of Public Colleges: The Challenge of Co-ordination*. New York: McGraw-Hill Book Co., 1959.

After careful consideration, the Survey Team decided to recommend a body composed exclusively of segmental representatives in order to assure informed members. Lay representation predominates at the governing board level, and the majority of the proposed Co-ordinating Council probably would consist of laymen representing boards. Experience of the Survey Team has shown that authentic representatives of the several segments quickly penetrate to the heart of higher educational problems. The problems of co-ordination require a degree of expertness that someone new to higher education is unlikely to have or soon acquire.

Having decided to recommend a Co-ordinating Council of 12 (three each from the junior colleges, the state colleges, the University, and independent institutions), the team faced the problem of voting. To relieve the junior colleges and the independent institutions of the unenviable role of casting deciding ballots in matters pertaining only to the state colleges and the University, the team determined that several types of questions would be decided on different bases. All members would vote on all questions, and all votes would be recorded; on the selection or dismissal of a director of the staff of the Council, all votes would count with eight of the 12 being required for effective action. Effective action on a matter pertaining to junior colleges would require the affirmative vote of five (including two junior college representatives) of the nine junior college, state college, and University representatives. Effective action on state college and University matters would require the affirmative vote of four of the six state college and University members. Procedural matters would be determined by rule of the Council.[9] Figure 2 shows graphically this co-ordination structure.

The proposed Co-ordinating Council will have advisory functions to review operating budget and capital outlay requests, to interpret functional differentiation on programs, to study new facilities and programs, and to advise The Regents, the State College Trustees, the Governor, the Legislature, and other appropriate state officials regarding these matters. It will have a director and technical staff, and it will have power to require data from the public institutions. Its effectiveness and its influence with the governing boards, the Governor, the Legislature, and the public will flow from its mastery of the prob-

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[9] This is not specifically stated in the approved recommendations; here the Survey report attempts to clarify the recommendations.

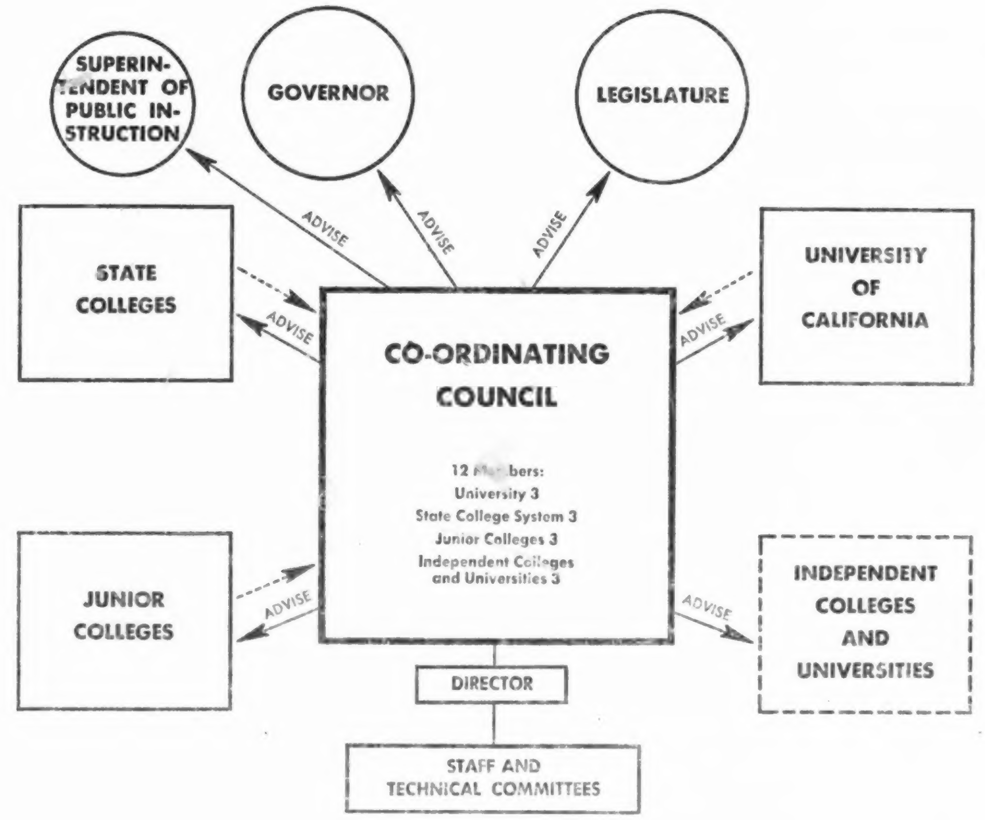
SUPERINTENDENT OF PUBLIC INSTRUCTION
GOVERNOR
LEGISLATURE
ADVISE
ADVISE
ADVISE
STATE COLLEGES
ADVISE
UNIVERSITY OF CALIFORNIA
ADVISE
CO-ORDINATING COUNCIL
12 Members:
University 3
State College System 3
Junior Colleges 3
Independent Colleges and Universities 3
JUNIOR COLLEGES
ADVISE
INDEPENDENT COLLEGES AND UNIVERSITIES
ADVISE
DIRECTOR
STAFF AND TECHNICAL COMMITTEES

FIGURE 2
Recommended Co-ordination Structure

lems of higher education. If the Council, along with its staff, performs well, confidence in its recommendations and their rate of acceptance will be high. The Survey Team places high reliance on the impartial directorship and staff and in the persuasiveness of the facts and figures that will be assembled by them.

The Proposed Constitutional Amendment

The kernel of the Survey's proposals on structure, function, and co-ordination is contained in the proposed constitutional amendment. The basic agreement, approved in principle by the State Board of Education and The Regents at their joint meeting of December 18, 1959, is of fundamental importance both to the future of public higher education and to the fiscal solvency of the state. Although it contains some details, particularly on co-ordination, that under ordinary circumstances might not be included there, the Survey Team advises embodying the basic plan in the Constitution. Adoption of an amendment that includes the provisions here recommended will lay the basis for orderly development of public higher education for decades to come.

As stated at the outset of this chapter, the plan is a "package" of interrelated items. If substantive amendments are made that are not agreeable to the parties to the compact, the amended instrument should be dropped by mutual consent. The team cannot advise on appropriate strategy to be employed in proposing the constitutional amendment or in obtaining its ratification. If the Governor puts the matter on a special session call, it can be considered by the Legislature in 1960.[10] If it is not placed on a call or if the Legislature fails to approve a satisfactory constitutional amendment, consideration might be given to proposing the plan through the initiative process.

The text that follows is not in final form for submission to the Legislature or to the electorate. A perfected draft must come from the segments' attorneys and from the Legislative Counsel. The recommendations that follow, however, do contain the essence of what is thought to be a reasonable and viable proposition.

RECOMMENDATIONS

It is recommended that:

1. An amendment be proposed to add a new section to Article IX of the State Constitution providing that public higher education shall consist of the junior colleges, the State College System, and the University of California. Each shall strive for excellence in its sphere, as assigned in this section.

2. The junior colleges shall be governed by local boards selected for the purpose from each district maintaining one or more junior colleges. The State Board of Education shall prescribe minimum standards for the formation and operation of junior colleges and shall exercise general supervision over said junior colleges, as prescribed by law. Said public junior colleges shall offer instruction through but not beyond the fourteenth grade level including, but not limited to, one or more of the following:

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[10] See Appendix I for actions by the special session of the 1960 Legislature on the recommendations in this report which require legislative action.

(a) standard collegiate courses for transfer to higher institutions, (b) vocational-technical fields leading to employment, and (c) general, or liberal arts courses. Studies in these fields may lead to the Associate in Arts or Associate in Science degree. Nothing in this section shall be construed as altering the status of the junior college as part of the Public School System as defined elsewhere in the Constitution.

3. The State College System:
   a. Shall constitute a public trust, to be administered by a body corporate known as "The Trustees of the State College System of California" with number, term of appointment, and powers closely paralleling those of The Regents.
   b. The board shall consist of five ex officio members: the Governor, the Lieutenant Governor, the Speaker of the Assembly, the Superintendent of Public Instruction, and the chief executive officer of the State College System; and 16 appointive members appointed by the Governor for terms of 16 years. The chief executive officer of the State College System shall also sit with The Regents in an advisory capacity, and the President of the University of California shall sit with the Trustees in an advisory capacity. The members of the State Board of Education shall serve ex officio as first Trustees, being replaced by regular appointees at the expiration of their respective terms.
   c. The state colleges shall have as their primary function the provision of instruction in the liberal arts and sciences and in professions and applied fields which require more than two years of collegiate education and teacher education, both for undergraduate students and graduate students through the master's degree. The doctoral degree may be awarded jointly with the University of California, as hereinafter provided. Faculty research, using facilities provided for and consistent with the primary function of the state colleges, is authorized.
4. The University of California shall be governed by The Regents as provided in Section 9 of Article IX, of the Constitution. The

University shall provide instruction in the liberal arts and sciences and in the professions, including teacher education, and shall have exclusive jurisdiction over training for the professions [including but not by way of limitation],[11] dentistry, law, medicine, veterinary medicine, and graduate architecture. The University shall have the sole authority in public higher education to award the doctor's degree in all fields of learning, *except that* it may agree with the state colleges to award joint doctoral degrees in selected fields. The University shall be the primary state-supported academic agency for research, and The Regents shall make reasonable provision for the use of its library and research facilities by qualified members of the faculties of other higher educational institutions, public and private.

5. An advisory body, the Co-ordinating Council for Higher Education:

   a. Shall consist of 12 members, three representatives each from the University, the State College System, the junior colleges, and the independent colleges and universities. The University and the State College System each shall be represented by its chief executive officer and two board members appointed by the boards. The junior colleges shall be represented by (1) a member of the State Board of Education or its chief executive officer, (2) a representative of the local governing boards, and (3) a representative of the local junior college administrators. The independent colleges and universities shall be represented as determined by agreement of the chief executive officers of the University and the State College System, in consultation with the association or associations of private higher educational institutions. All votes shall be recorded, but effective action shall require an affirmative vote of four of the six University and state college representatives; except that on junior college matters the junior college representatives shall have effective votes; and on the appointment and removal of a director of the Council all 12 shall be effective.

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[11] A later draft omitted by mutual agreement the phrase "including but not by way of limitation."

b. A director of the staff for the Co-ordinating Council shall be appointed by a vote of eight of the 12 Council members, and may be removed by a vote of eight members of the Council. He shall appoint such staff as the Council authorizes.

c. The Co-ordinating Council shall have the following functions, advisory to the governing boards and appropriate state officials:

(1) Review of the annual budget and capital outlay requests of the University and the State College System and presentation to the Governor of comments on the general level of support sought.

(2) Interpretation of the functional differentiation among the publicly supported institutions provided in this section; and in accordance with the primary functions for each system as set forth above, advise The Regents and The Trustees on programs appropriate to each system.

(3) Development of plans for the orderly growth of higher education and making of recommendations to the governing boards on the need for and location of new facilities and programs.

d. The Council shall have power to require the public institutions of higher education to submit data on costs, selection and retention of students, enrollments, capacities, and other matters pertinent to effective planning and co-ordination.

CHAPTER IV

STUDENTS: THE PROBLEM OF NUMBERS

The fundamental problem, central to all that follows in the Survey, is that of students. How many have there been, how many are there, how many will there be in the next 15 years in the higher education institutions of California? Closely related is the problem of how they will be distributed among the state's many collegiate institutions, both public and private. It is the purpose of this chapter to examine these matters.

THE RECENT PAST

That enrollments in the state's higher education institutions have been growing during the past decade is apparent to anyone acquainted even casually with their campuses. The growth, however, has not been steady; indeed, for three of these years it declined. Immediately following World War II there was a flood of veterans, men and women whose education had been interrupted by the conflict and who, aided by federal legislation under the "G.I. Bill," flocked in large numbers to the colleges of their choice. This influx had already well started when the decade 1948-1958 began. The decline occurred during and immediately after the Korean conflict, and soon thereafter enrollments resumed their more normal increase. Table 1 presents the fall enrollment facts regarding full-time students for the period 1948 through 1958.

The enrollments for the 1948-1958 period have been selected both to give some perspective against which to observe what lies ahead for the near future and to afford a basis for understanding figures on costs of higher education, both past and future, which are presented in Chapter IX.

THE NEXT 15 YEARS

In sharp contrast to the relatively slow growth of higher education in the decade just noted, the period just ahead will register enormous gains. By 1975, according to latest projections, more than one

TABLE 1

Full-time Fall Enrollments, California Higher Education, by Segment,[1] 1948-1958

Year	Junior college	State college	University of California	Public total	Independent institutions	State total
1948	55,933	22,787	43,469	122,189	44,780	166,969
1949	66,603	26,086	43,426	136,115	46,210	182,325
1950	56,624	25,369	39,492	121,485	41,036	162,521
1951	48,674	24,160	34,883	107,717	36,446	144,163
1952	52,818	25,162	33,326	111,306	33,120	144,426
1953	52,142	24,712	32,636	109,490	37,167	146,657
1954	63,019	29,487	32,563	125,069	37,847	162,916
1955	70,165	33,910	37,717	141,792	40,832	182,624
1956	74,082	38,338	37,522	149,942	42,396	192,338
1957	80,916	41,479	41,625	164,020	44,378	208,398
1958	91,162	44,528	43,101	178,791	46,824	225,615

[1] One reason why the Survey Team so strongly recommends a Co-ordinating Council with staff to make continuous studies and establish standard methods of reporting is illustrated by the difficulties encountered in preparing this table. For several segments, three different figures for the same year, all purporting to be "official," were found in print. The sources finally used were (1) the Administrative Planning Office of the State Department of Education Division of State Colleges and Teacher Education, from a dittoed report prepared under date of July 16, 1959, for the Master Plan Survey, for the years 1950, 1951, 1952, 1953, 1954, and 1956; (2) the Additional Centers Study [H. H. Semans and T. C. Holy, *A Study of the Need for Additional Centers of Public Higher Education in California*], Table 24, page 114, for the years 1948 and 1949, since the Planning Office data did not go that far back; and (3) reports to the Master Plan Survey from the Department of Finance for the years 1955, 1957, and 1958.

million students, 661,350 of them attending full time,[1] will enroll in California institutions of higher education. This is nearly triple the Fall, 1958, full-time total enrollment of 225,615. To provide for this tremendous increase is the major problem confronting higher education in this state; the enormity of that growth, its trends and implications, must be fully understood before rational planning can proceed.

The causes of this projected increase in college enrollments are easy to determine. By the end of World War II, the birth rate in California had increased by 50 per cent over that of prewar days and has remained near this level. Added to the birth rate increase has been a continued large scale inmigration. This influx of population is expected to show net gains of 300,000 or more annually in the years ahead. According to current estimates of the State Department of Finance California's population was 15,280,000 on July 1, 1959, and is expected to increase to over 25,000,000 by 1975.[2]

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[1] "Full time" is defined as "enrolled for 12 units or more of college credit."

[2] State Department of Finance, *California's Population in 1959*, Sacramento, August, 1959.

By the year 2020, this state is expected to contain 58,000,000 persons, nearly four times its present population.[3] Figure 3 shows these estimates by decades.

These are the general outlines and the causes of the problem of burgeoning enrollments which higher education in California has to face. The remainder of this chapter will be devoted to an examination of data pertaining to the distribution of this enrollment, the implications which the projected trends in distribution have for planning, and the presentation of modifications of enrollment projections, based on policies recommended elsewhere in this report.

Status Quo PROJECTIONS

The first step in analyzing the enrollment growth was the preparation of enrollment estimates assuming the continuation of present trends to 1975. These projections were prepared by the Department of Finance, with the advice of the Technical Committee on Enrollment Projections.

METHOD

The basic datum in projecting the future college enrollments for the state is the high school graduate. The total number of these graduates, their location, and their qualifications and desires to attend each of the various segments and particular institutions of higher education form the basis for estimating future enrollments. The projection of high school graduates has employed the "grade progression" method, which, by making allowance for attrition and accretion on the basis of past experience and projected trends, traces each elementary and secondary grade and high school class through the twelfth year of school. For example, the high school graduating classes of 1965-66 will include many of the 248,840 students enrolled in the fifth grade of the public schools and of the 32,000 enrolled in the same grade of the private schools on October 31, 1958. Furthermore, these same students will contribute to the college freshman class of 1966-67 and the college seniors of 1969-70.

Because of California's size and uneven population distribution and growth, an area analysis has been carried out in terms of "State Economic Areas," as defined by the United States Bureau of the

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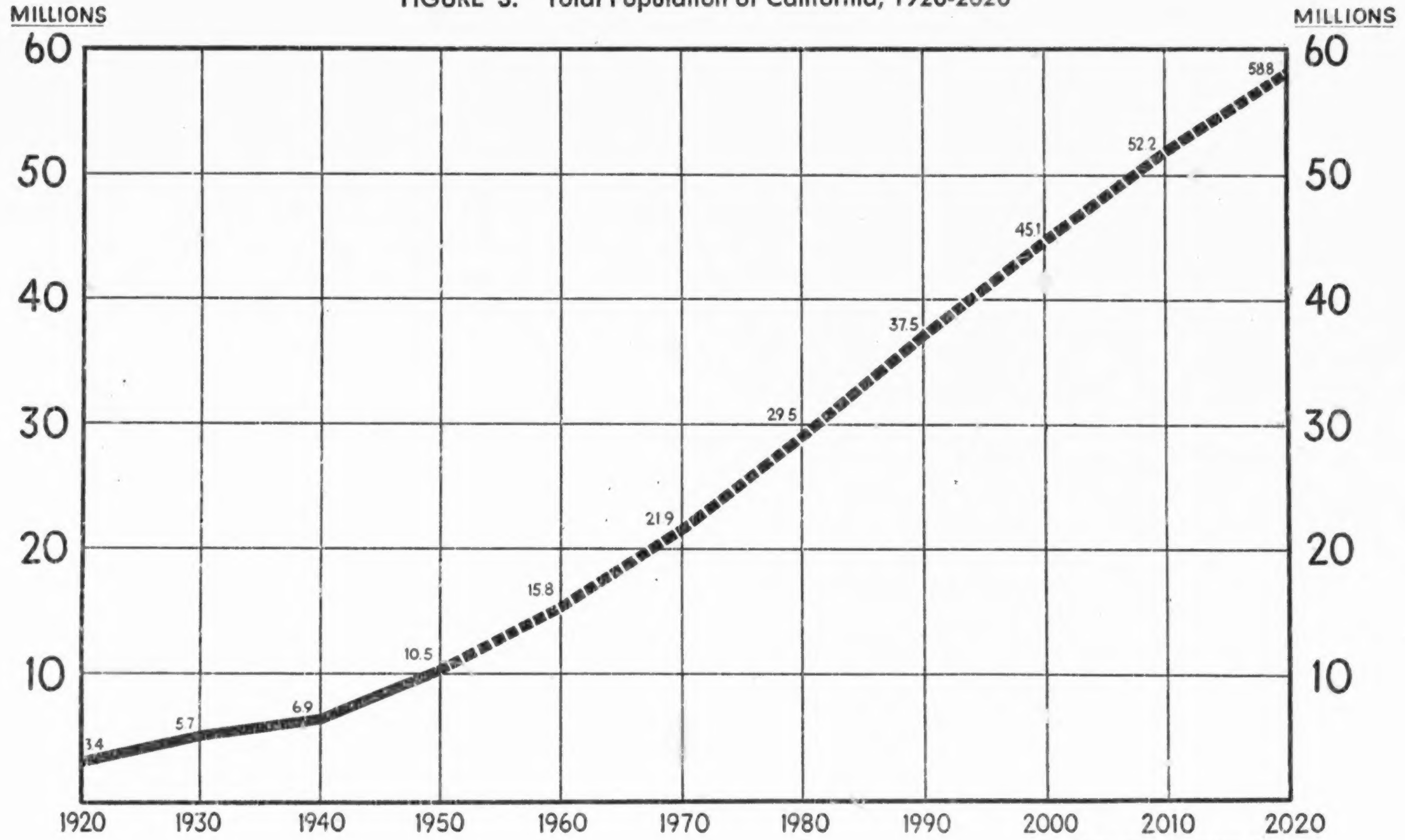
[3] Estimates by Van Beuren Stanbery, San Francisco, September 16, 1958.

FIGURE 3. Total Population of California, 1920-2020



Source: Van Beuren Stanbery, Sept. 16, 1958

Census.[4] These areas were chosen, not only because of the availability of a considerable body of accumulated data based on these geographic divisions, but because the State Economic Areas, in general, conform closely to the actual population centers throughout the state. The California State Economic Areas are as follows:

CALIFORNIA STATE ECONOMIC AREAS (AS OF JULY, 1959)

Nonmetropolitan Areas	*Area Number*	*Counties Included*
North Coastal	1	Del Norte, Humboldt, Lake, Mendocino
North Central Coastal	2	Napa, Sonoma
South Central Coastal	3	Monterey, San Benito, San Luis Obispo, Santa Cruz
Sacramento Valley	4	Butte, Colusa, Glenn, Sutter, Tehama, Yolo, Yuba
North San Joaquin Valley	5	Merced, Stanislaus
South San Joaquin Valley	6	Kings, Madera, Tulare
South Coastal	7	Ventura
Imperial Valley	8	Imperial
Sierra	9	Alpine, Amador, Calaveras, El Dorado, Inyo, Lassen, Mariposa, Modoc, Mono, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Trinity, Tuolumne
Metropolitan Areas		
San Francisco-Oakland	A	Alameda, Contra Costa, Marin, San Francisco, San Mateo, Solano
San Jose	B	Santa Clara
Sacramento	C	Sacramento
Stockton	D	San Joaquin
Fresno	E	Fresno
Los Angeles-Long Beach	F	Los Angeles, Orange
San Diego	G	San Diego
San Bernardino-Riverside-Ontario	H	San Bernardino, Riverside
Santa Barbara	J	Santa Barbara
Bakersfield	K	Kern

The number of public high school graduates in each State Economic Area was used in estimating the number of entering freshmen who could be expected each year for each of the public segments.

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[4] See Donald J. Bogue, *State Economic Areas.* Washington, D.C.: Bureau of the Census, U.S. Department of Commerce, 1951.

This determination was made on the basis of the known tendencies of the high school graduates, area by area, to attend the various types of educational institutions. Total enrollments for each segment were then obtained by deducting from the total the number who could be expected to drop out and adding the number of students who could be expected to transfer from another segment. For the state colleges and the University of California, this procedure was followed for individual institutions and campuses. Adjustments were then made among the enrollments of the various institutions on the basis of the estimated impact that newly created institutions in the same or other areas would have on their enrollments.

The enrollments for the independent institutions were not projected in the same manner, since they have much more control over their enrollments than do the public institutions. Furthermore, a larger proportion of their enrollees are graduates of other than California high schools. Instead, the individual colleges and universities were asked to supply enrollment estimates based on their own planning and analysis.

By use of the methods just described, Table 2 was developed. This table shows the projected full-time enrollments based on a continuation of the *status quo* in higher education for 1960, 1965, 1970, and 1975, and their distribution among the junior colleges, state colleges, University of California, and the independent colleges and universities. Since this is the basic table on enrollment projections in this report, some of the figures found in it appear in other parts of the study.

ASSUMPTIONS

The major assumptions[5] controlling these projections are as follows:

1. The State of California will continue to grow rapidly, reflecting a high level of economic development if there are no major economic setbacks, atomic wars, or natural catastrophes between now and 1975. By that time the state's total population is expected to be in the neighborhood of twenty-five million people.

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[5] Preliminary report *First-Run Status Quo Projections of Enrollment of California Institutions of Higher Learning Included in the Master Plan Survey*, Department of Finance, Budget Division, No. 112759.

2. The rates at which children remain in high school until graduation and the geographic distribution of high school graduates to 1975 will in general follow the trends of the past decade.
3. The rates at which California's young people enter its colleges will continue to show a gradual increase to 1975.

TABLE 2

Distribution of Status Quo Projections of Full-time Enrollment in California Institutions of Higher Education by Five-year Intervals to 1975

Type of institution and level	Actual (Fall)			Status quo projections (Fall)			
	1955	1957	1958	1960	1965	1970	1975
All institutions							
All levels	182,624	208,398	225,615	276,600	405,100	536,800	661 350
Lower division	116,573	131,104	144,080	183,100	264,450	342,000	418,250
Upper division	45,465	54,331	55,024	63,250	97,650	137,500	172,300
Graduate	18,722	20,981	22,246	25,700	37,250	50,600	63,000
Special	1,864	1,982	4,265	4,550	5,750	6,700	7,800
Public junior colleges							
All levels	70,165	80,916	91,162	115,750	162,600	205,200	251,400
Lower division	68,897	79,352	89,206	113,450	159,350	201,100	246,350
Upper division	----	----	----	----	----	----	----
Graduate	----	----	----	----	----	----	----
Special	1,268	1,564	1,956	2,300	3,250	4,100	5,050
State colleges							
All levels	33,910	41,479	44,528	58,600	104,950	157,150	200,000
Lower division	15,596	18,010	20,052	28,000	50,350	73,350	91,750
Upper division	16,005	20,934	21,701	27,200	48,300	74,600	96,300
Graduate	2,141	2,305	2,681	3,400	6,300	9,200	11,950
Special	168	230	94	----	----	----	----
University of California							
All levels	37,717	41,625	43,101	50,400	77,000	106,050	136,000
Lower division	13,116	13,451	14,030	18,350	27,150	35,950	45,900
Upper division	14,970	16,608	16,149	17,350	27,850	39,000	50,450
Graduate	9,631	11,566	12,922	14,700	22,000	31,100	39,650
Independent Colleges							
All levels	21,625	24,630	26,801	30,950	38,550	45,400	49,900
Lower division	12,179	14,020	14,766	17,100	21,250	25,050	27,500
Upper division	7,838	9,004	9,520	10,850	13,400	15,650	17,100
Graduate	1,544	1,531	1,851	2,300	3,050	3,800	4,300
Special	64	75	664	700	850	900	1,000
Independent universities							
All levels	19,207	19,748	20,023	20,900	22,000	23,000	24,050
Lower division	6,785	6,271	6,026	6,200	6,350	6,550	6,750
Upper division	6,652	7,785	7,654	7,850	8,100	8,250	8,450
Graduate	5,406	5,579	4,792	5,300	5,900	6,500	7,100
Special	364	113	1,551	1,550	1,650	1,700	1,750

4. The independent colleges and universities will not expand their facilities at a rate sufficient to maintain their present proportion of enrollment.
5. The publicly controlled facilities will be limited to institutions in operation and reporting enrollment in the Fall of 1959, with the addition of one junior college, two state colleges, and three campuses of the University of California.
6. Each publicly controlled institution within each system will continue to attract students at about present rates, and students will continue current patterns of place of origin and attendance except as modified by the new institutions. Implicit is a continuation of present admission policies, curricula, and other conditions influencing enrollment.
7. Each institution will be able to handle all the students who would be able to enroll under these assumptions so that the projected numbers are "potentials" not restricted by site, physical plant, or other limitations that may in actuality exist.

The *status quo* enrollment estimates, which follow in this section, are based on this set of assumptions, and, of course, are limited by them. Following is the probable distribution of these enrollments, by segment, and by divisional level, between 1958 and 1975, if *status quo* policies were to remain in effect. (The geographic distribution of high school graduates over this same period is not discussed here, but is dealt with in the section of Chapter VI, "Institutional Capacities and Area Needs," covering the need for new junior colleges, state colleges and campuses of the University of California.)

Table 3 presents the number of full-time graded students and the proportion of the total which each segment of higher education enrolled in 1958 along with the numbers and proportions of the total each would enroll in 1975 if the current trends are maintained. From these data it can be seen that the current pattern of enrollment would change considerably in this period. Of particular significance is the estimate that the proportion of the total college students who will be enrolled in independent colleges and universities in 1975 would be about one-half of that of 1958. On the other hand the state college proportion would increase by 10.5 per cent, the Univer-

TABLE 3

Growth in Full-time Enrollment and Distribution, by Segments, Between Fall, 1958, and Fall, 1975, Status Quo Projections

Segment	Fall, 1958		Fall, 1975	
	Number of students	Percentage distribution	Number of students	Percentage distribution
Junior colleges	91,162	40.4	251,400	38.0
State colleges	44,528	19.7	200,000	30.2
University of California	43,101	19.1	136,000	20.6
Independent colleges and universities	46,824	20.8	73,950	11.2
Total	225,615	100.0	661,350	100.0

sity of California's proportion would remain relatively constant, and that of the junior colleges would be slightly reduced.

In other terms, for every 100 full-time students enrolled in each segment in the Fall of 1958, the Fall of 1975 would see 276 students in the junior colleges, 449 students in the state colleges, 316 students in the University of California, and 158 students in the independent colleges and universities.

During this time, as will be seen from Table 3, the proportion of students in publicly supported institutions will increase from approximately 80 per cent to almost 90 per cent. This change as noted above would be largely brought about by the relatively large growth of the enrollments in the state colleges, which would have a relative gain in enrollments almost identical to the decline projected for the independent institutions.

A breakdown of the distribution of students among the segments by divisions shows clearly that the increases are not uniform at the various levels. From Table 4 it can be seen that the greatest relative gains in enrollment for both the state colleges and the University of California would occur in the lower division. The independent colleges and universities, on the other hand, would register their greatest additional enrollment at the graduate division level.

In the lower division projections (Table 4) the greatest increase, 358 per cent, between 1958 and 1975, is predicted for the state colleges. The second largest increase, 227 per cent, would occur in the University of California; the junior college enrollment (which is all lower division) would increase by only 176 per cent, and the independent colleges and universities by 65 per cent.

TABLE 4

Trends in Full-time Enrollment, by Level and Segment, Fall, 1958, to Fall, 1975, Status Quo Projections [1]

Level and segment	1958 Reported enrollment	Per cent by level	1975 Projected enrollment	Per cent by level	Per cent increase over 1958
Lower Division					
Junior colleges	89,206	61.9	246,350	58.9	176
State colleges	20,052	13.9	91,750	21.9	358
University of California	14,030	9.8	45,900	11.0	227
Independent colleges and universities	20,792	14.4	34,250	8.2	65
Total	144,080	100.0	418,250	100.0	190
Upper Division					
State colleges	21,701	39.4	96,300	55.9	344
University of California	16,149	29.4	50,450	29.3	212
Independent colleges and universities	17,174	31.2	25,550	14.8	49
Total	55,024	100.0	172,300	100.0	213
Graduate Division					
State colleges	2,681	12.0	11,950	19.0	346
University of California	12,922	58.1	39,650	62.9	207
Independent colleges and universities	6,643	29.9	11,400	18.1	72
Total	22,246	100.0	63,000	100.0	183
Specials, not classified[2]					
Junior colleges	1,956	----	5,050	----	----
State colleges	94	----	----	----	----
Independent colleges and universities	2,215	----	2,750	----	----
Total	4,265	----	7,800	----	----
All Levels					
Junior colleges	91,162	40.4	251,400	38.0	176
State colleges	44,528	19.7	200,000	30.2	349
University of California	43,101	19.1	136,000	20.6	216
Independent colleges and universities	46,824	20.8	73,950	11.2	58
Total	225,615	100.0	661,350	100.0	193

[1] Since these are status quo projections, they do not take into account recommendations made elsewhere in this report to divert lower division students from the state colleges and the University of California to the junior colleges.

[2] Students not classified either by division or by college class. These are omitted from later tables.

Again, in terms of each one hundred students in the lower division for each of these segments in 1958, lower division enrollments in 1975 would be 276 in the junior colleges, 458 in the state colleges, 327 in the University of California, and 165 in the independent colleges and universities.

At both the upper and the graduate division levels, as shown in Table 4, the greatest increases are projected for the state colleges, followed by the University and the independent colleges and universities, in that order. The proportion of the total number of upper division students who were enrolled in the state colleges would increase from 39 per cent to 56 per cent between 1958 and 1975, that of the University would remain at 29 per cent, and the independent colleges and universities would drop from 31 to 15 per cent.

The situation at the graduate division level would be similar, with the state colleges registering the greatest relative gains, the University's enrollment reflecting a smaller but still substantial gain, and the independent colleges and universities registering a relative decline.

In addition to the problem of unequal rates of growth among the four segments, there is the problem of how enrollments will be distributed among the individual institutions of both the State College System and the University of California. Given a continuation of the *status quo* there will be a very large diversity among the rates of increase at the various state colleges and campuses of the University. Table 5 indicates the degree of this diversity for each existing and authorized state college, and Table 6 gives the same information for the different campuses of the University.

It is clear that unless present enrollment trends are modified in some way, there will result within a few years grave overcrowding of site capacity on certain state college and University of California campuses markedly exceeding planning figures adopted by the respective boards. At the same time, other campuses will have large amounts of unused space.

FINDINGS

1. More than one million students will be enrolled in institutions of higher education in California in 1975; of these, 661,350 will be full-time students. This is nearly triple the full-time enrollment for 1958.

TABLE 5

Status Quo Full-time Enrollment Projections for Each Existing and Authorized State College, 1958-1975 *

College	1958 Reported enrollment	1975 Projected enrollment	Per cent increase 1975 over 1958
Alameda[1]	----	8,050	----
California Polytechnic (Kellogg-Voorhis Campus)	1,101	15,700	1,326
California Polytechnic (San Luis Obispo Campus)	3,796	11,050	191
Chico	2,608	5,650	117
Fresno	4,358	8,500	95
Humboldt	1,397	4,300	208
Long Beach	4,380	24,850	467
Los Angeles	3,334	28,550	756
North Bay[2]	----	2,500	----
Orange[1]	----	9,900	----
Sacramento	2,709	7,250	168
San Diego	5,573	20,150	262
San Fernando	987	18,100	1,734
San Francisco	5,250	8,200	56
San Jose	9,035	24,900	176
Stanislaus[2]	----	2,350	----
Totals	44,528	200,000	349

* Since these are status quo projections, they do not take into account recommendations made elsewhere in this report to divert lower division students from the state colleges and the University of California to the junior colleges.

[1] Began operation in the fall of 1959.

[2] Authorized but not yet in operation.

2. On the basis of the *status quo* trends the largest relative growth at all levels by 1975 will be in the state colleges, which are expected to increase their proportion of the total enrollment over that existing in 1958 in all three divisional levels—the lower division, upper division, and graduate. The University of California will increase its proportion of total enrollments during this period at all levels except the upper division, which is expected to show a slight decrease. Although both the junior colleges and the independent colleges and universities will experience a large numerical increase, each will enroll a proportionately smaller share of the total number of students in 1975 than it did in 1958. For the independent colleges and universities this decline will be reflected at all three levels.

3. The greatest growth for both the state colleges and the University of California is expected to take place in lower division

enrollments, while in the independent colleges and universities the greatest growth will occur at the graduate level.

4. Enrollment increases will vary tremendously among the several state colleges and among the campuses of the University of California as can be seen from Tables 5 and 6. In fact, the projected increases at some of these state colleges and campuses of the University will increase the enrollments well above planning estimates developed by the State Department of Education and the University of California, as well as exceeding the maximum enrollments recommended elsewhere in this report. (See Chapter VI.) At the same time, other institutions in both systems will be attracting far fewer students than they could accommodate.

DISTORTIONS REVEALED BY *Status Quo* PROJECTIONS

It appears from the *status quo* projections that unless restrictions of some kind are placed on enrollment growth at the state colleges and the campuses of the University of California, these two segments will be enrolling a much larger proportion of the total num-

TABLE 6

Status Quo Full-time Enrollment Projections for Each Existing and Authorized Campus of the University of California, 1958-1975 *

Campus	1958 Reported enrollment	1975 Projected enrollment	Per cent increase 1975 over 1958
Berkeley	19,198	43,950	129
Davis	2,341	7,750	231
La Jolla	†53	‡3,650	----
Los Angeles	16,274	35,600	119
Riverside	991	7,050	611
Santa Barbara	2,710	9,900	265
Southeast Los Angeles-Orange[1]	----	16,950	----
South Central Coast[1]	----	8,550	----
San Francisco-Medical	1,534	2,600	69
Totals	43,101	136,000	216

* Since these are status quo projections, they do not take into account recommendations made elsewhere in this report to divert lower division students from the state colleges and the University of California to the junior colleges.

† Graduate students in the Institute of Oceanography only.

‡ Approved as a general campus by The Regents in 1957.

[1] Approved by The Regents but not yet in operation.

ber of students in California institutions in 1975 than in 1958. Furthermore, despite the large increases in the number of students at the upper division and graduate level which these two segments will be called upon to absorb, the greatest increases in both these systems will be, under *status quo* projections, in the lower division.

It is the belief of the Survey Team that such expansion by these two systems is inconsistent with the best interests of the state. In order to absorb these increases, and still meet their responsibilities for upper and graduate division students, many of the state colleges and campuses of the University will be enlarged far above the capacity of their sites, necessitating acquisition of added acreage—often in crowded urban centers—at excessively high costs.

The Survey Team is of the further belief that the *Restudy* recommendation approved by both boards and stated here is a sound one: that "the University of California emphasize policies leading to the reduction of lower division enrollments in relation to those of the upper and graduate divisions, and that the state colleges pursue policies which will have a similar effect." [6]

The Survey Team is convinced that the percentage increase in the lower division ought to be highest in the junior colleges, chiefly because of the following reasons:

1. Easy accessibility to students and the consequent reduction in cost to them
2. The high scholastic records made in both the state colleges and the University by junior college transfers
3. The junior college screening function of indicating those students most likely to succeed in their education beyond the lower division
4. The adopted policy, in California's tripartite system of public higher education for the University and the state colleges to place increased emphasis on upper division and graduate programs
5. The diversion of a portion of lower division students from the state colleges and the University of California to the junior

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[6] T. R. McConnell, T. C. Holy, and H. H. Semans, *A Restudy of the Needs of California in Higher Education*. Sacramento: California State Department of Education, 1955, p. 44. This recommendation was approved by the Liaison Committee on December 18, 1954, by the State Board of Education on January 3, 1955, and by the Regents on March 18, 1955.

colleges to aid in controlling the unmanageable size of certain institutions as shown in Tables 5 and 6.

6. Costs per student to the state for both operation and plant are lower in the junior colleges than in the state colleges and the University

CONCLUSIONS

On the basis of the foregoing, the Master Plan Survey Team came to the following conclusions:

1. That by 1975 about 50,000 of the lower division students, who, according to the *status quo* projections, will be enrolled in the state colleges and the University of California, should be accommodated in the junior colleges
2. That such diversion will not directly prevent any high school graduate from continuing his education beyond the lower division if he can meet the transfer requirements into any four-year institution
3. That methods to achieve this diversion should be developed by the respective boards and the Co-ordinating Council

RECOMMENDATIONS

As one means of achieving this diversion of lower division students from the state colleges and the University of California to the junior colleges, ***the Survey Team recommends the following:***

In order to implement more fully the action of The Regents of the University of California and the State Board of Education in 1955 that "the University of California emphasize policies leading to the reduction of lower division enrollments in relation to those of the upper and graduate divisions, and the state colleges pursue policies which will have a similar effect," the percentage of undergraduates in the lower division of both the state colleges and the University be gradually decreased ten percentage points below that existing in 1960 (estimated to be 51 per cent in both segments) by 1975. It is further recommended that the determination of the means by which this recommendation can best be carried out be the responsibility of the governing boards.[7]

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[7] It is estimated that this recommendation would result in the transfer of some 40,000 lower division students to the junior colleges by 1975. It is expected that the recommendation to select state college students from the upper 33⅓ per cent of all public high school graduates and the University from the upper 12½ per cent, together with the recommendation that all "limited" students be required to meet regular admission requirements, will make up another 10,000.

Modified PROJECTIONS

The conclusions reached by the Master Plan Survey after studying the *status quo* enrollment projections led the team to request the Department of Finance to prepare a set of modified projections. These were to be based on the following assumptions in addition to the first four of those made earlier in this chapter under the heading "Assumptions."

1. That diversion of full-time lower division students from state colleges and University of California campuses to junior colleges will be undertaken so as to result in approximately 50,000 such students being diverted in 1975
2. That the respective boards of the State College System and the University of California will devise measures that will reduce the overcrowding of certain of their institutions beyond reasonable site capacity and will increase the numbers attending less crowded institutions of both systems
3. That the lower division proportion of the full-time undergraduate enrollment of the two public segments will be reduced gradually so that by 1975 it will be, for each segment, in the neighborhood of 41 per cent. This would be, in each case, a system-wide average, not necessarily true for each campus within the system.
4. That the most rapid rate of lower division growth during the period 1960 to 1975 will be in the junior colleges, since this segment is least costly, per student, to the state
5. That during this period, in addition to the already authorized state college and state university campuses, two new state colleges, as elsewhere recommended in this report, will be established and put into operation
6. That the state will encourage development by local communities of additional junior colleges as needed, contributing more heavily to their support than in the past and making state funds available to pay for part of the cost of their construction
7. That the modification of freshman entrance requirements to state colleges and the University of California. as recommended

in Chapter V, will be adopted, as well as those modifications affecting entrance to those institutions with advanced standing

It is evident that the administrative decisions that will be necessary to put these assumptions into effect, rather than the broad statements of assumed policy themselves, will determine the numbers of students in each system and their distribution by institution and campus. The Survey Team has left to the respective governing boards the determination of how, for example, students are to be diverted from an overcrowded to a less crowded campus within the same system. Clearly, any one of a number of methods of achieving this end might be used, each with its own effect on the enrollment of individual campuses. Further, it is obvious that whatever means are used will result in some net loss or shrinkage since a student not admitted to the campus of his first choice may change his educational plans completely.

Because the preparation of *modified* projections in detailed figures by area, institution, and division level involved "second guessing" a large number of administrative decisions and policies, the detailed projections will be presented only in the Techical Committee Report. Therefore, *modified* enrollment projections are shown here only for segment and level.

Tables 7 and 8 show how the Survey recommendations for the diversion of lower division students to the junior colleges will have affected the pattern of higher education enrollments by 1975. To bring this modification about is the continuing responsibility of the respective boards and the Co-ordinating Council, who can thus insure that henceforth enrollments in public higher education in the state shall be on a planned and rational, rather than haphazard basis. Some consideration of methods by which the correction of distorted enrollments can be brought about is included in Chapter V.

The modification of *status quo* enrollment trends, as these trends are presented in Tables 7-10 show how students might be distributed among the segments of California higher education by 1975. As noted in the explanatory footnotes to Tables 7 and 8, the conditions set by the team are not completely met by the *modified figures*. The team recognizes, however, that many unpredictable factors will undoubtedly influence the ultimate actual, as distinct from projected, enrollments.

TABLE 7

Rate of Growth in Full-time Lower Division Enrollment by Segment, Status Quo, and Modified Projections, 1958 to 1975

Segment	1958 Reported enrollment	1975 Status quo projections		1975 Modified projections	
		Number	Per cent of growth	Number	Per cent of growth
Junior colleges	89,206	246,350	176	*288,950	**224
State colleges	20,052	91,750	358	67,400	236
University of California	14,030	45,900	227	28,800	105
Independent colleges	20,792	34,250	65	34,250	65
Total	144,080	418,250	190	419,400	191

* The difference of 42,600 junior college enrollees shown here between status quo and modified projections is less than the 50,000 the team believes should have been diverted by 1975.

** The modified projections do not fully conform to the team's recommendation that fastest rate of lower division growth should be in junior colleges.

TABLE 8

Percentage Distribution of Full-time Undergraduate Enrollment by Level, State Colleges and University of California—1975 Modified Projections

Level	State colleges		University of California	
	Number of students	Per cent of undergraduates	Number of students	Per cent of undergraduates
Lower division[1]	67,400	40.0	28,800	36.9
Upper division	100,600	60.0	49,350	63.1
Undergraduate	168,000	100.0	78,150	100.0

[1] The modified projections reduce the lower division proportion of all undergraduate enrollment for both segments somewhat below the team's recommendation as quoted above.

TABLE 9

Percentage Distribution of Full-time Enrollment by Segment and Level, 1975 Modified Projections

Level	Segment							
	Junior colleges		State colleges		University of California		Independent colleges and universities	
	Number of students	Per cent	Number of students	Per cent	Number of students	Per cent	Number of students	Per cent
Lower division	288,950	100.0	67,400	37.3	28,800	24.2	34,250	48.1
Upper division	----	--	100,600	55.7	49,350	41.6	25,550	35.9
Graduate division	----	--	12,650	7.0	40,600	34.2	11,400	16.0
Total	288,950	100.0	180,650	100.0	118,750	100.0	71,200	100.0

TABLE 10

Distribution of Full-time Enrollments by Segment, Modified Projections—1975

Segment	Levels								
	Lower division		Upper division		Total undergraduate	Graduate division		Totals by segment	
	Number	Per cent	Number	Per cent	Number	Number	Per cent	Number	Per cent
Junior colleges	288,950	68.9	----	----	288,950	----	----	288,950	43.8
State colleges	67,400	16.0	100,600	57.3	168,000	12,650	19.6	180,650	27.4
University of California	28,800	6.9	49,350	28.1	78,150	40,600	62.8	118,750	18.0
Independent colleges and universities	34,250	8.2	25,550	14.6	59,800	11,400	17.6	71,200	10.8
Totals by levels	419,400	100.0	175,500	100.0	594,900	64,650	100.0	659,550	100.0

Table 2 in this chapter gives the *status quo* projections for the years 1960, 1965, 1970 and 1975, as compared with actual full-time enrollments for the years 1955, 1957, and 1958 by segment and level of higher education in the state. Somewhat similar information for the modified projections is found in Tables 7 to 10 in this chapter. The purpose of Table 11 is to show a comparison of the distribution of the projected enrollments under the *status quo* and *modified* plans for the years, 1965, 1970, and 1975.

TABLE 11

Comparison of Status Quo and Modified Full-time Enrollment Projections by Segments and Levels for 1965, 1970, and 1975

Type of institution	Status Quo Projections[1] for			Modified Projections[2] for		
	1965	1970	1975	1965	1970	1975
All institutions						
All levels	399,350	530,100	653,550	392,900	526,050	659,550
Lower division	264,450	342,000	418,250	263,450	342,900	419,400
Upper division	97,650	137,500	172,300	92,200	131,450	175,500
Graduate	37,250	50,600	63,000	37,050	51,700	64,650
Public junior colleges						
Lower division	159,350	201,100	246,350	169,650	225,900	288,950
State colleges						
All levels	104,950	157,150	200,000	98,950	145,200	180,650
Lower division	50,350	73,350	91,750	45,850	59,700	67,400
Upper division	48,300	74,600	96,300	46,800	75,650	100,600
Graduate	6,300	9,200	11,950	6,300	9,850	12,650
University of California						
All levels	77,000	106,050	136,000	66,250	89,150	118,750
Lower division	27,150	35,950	45,900	20,350	25,700	28,800
Upper division	27,850	39,000	50,450	23,900	31,900	49,350
Graduate	22,000	31,100	39,650	22,000	31,550	40,600
Independent colleges						
All levels	37,700	44,500	48,900	37,700	44,500	48,900
Lower division	21,250	25,050	27,500	21,250	25,050	27,500
Upper division	13,400	15,650	17,100	13,400	15,650	17,100
Graduate	3,050	3,800	4,300	3,050	3,800	4,300
Independent universities						
All levels	20,350	21,300	22,300	20,350	21,300	22,300
Lower division	6,350	6,550	6,750	6,350	6,550	6,750
Upper division	8,100	8,250	8,450	8,100	8,250	8,450
Graduate	5,900	6,500	7,100	5,900	6,500	7,100

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[1] The totals for all institutions for the two plans of projection differ somewhat for each of the three years because of the difference in procedures used in developing them. Also the totals for status quo projections differ from those in Table 2 because special students are included in that table but not in this one.

[2] *Ibid.*

The main purpose of the *modified* projections as shown earlier in this report is to divert lower division students from the state colleges and the University of California to the junior colleges. Table 11 shows that under this plan lower division enrollments in the state colleges in 1975 are 67,400 as compared with 91,750 under the *status quo* projections. For the University of California, comparable figures are 28,800 and 45,900. As would be expected, the impact of these reductions in the state colleges and the University of California is shown in the increase of lower division enrollments in the junior colleges from 246,350 in 1975 under the *status quo* plan to 288,950 under the *modified* plan.

CONCLUSIONS

It is the belief of the Survey Team that modification of the *status quo* projected distribution of enrollments among the various segments of higher education is necessary. Achievement of *modified* projections based on the assumptions given earlier in this chapter will place emphasis in the state colleges and the University of California on the divisional levels most appropriate to their defined functional responsibilities. Such modifications will allow these segments to concentrate more of their resources on the upper division and graduate students who will be seeking admission in greater numbers in the years ahead. The reduction in the number of lower division students attending these institutions will, moreover, contribute to the further strengthening of California's well-developed junior college program. This program is noteworthy in that it provides high caliber lower division education conveniently located to most of the college-age population at a cost to the state much below that which can be offered by either of the other publicly controlled segments; in addition, it provides a wide variety of other post-high-school educational services required by mid-twentieth century society.

CHAPTER V

STUDENTS: THE PROBLEM OF QUALITY

Problems of selection and retention loomed large in the Survey. The quality of an institution and that of a system of higher education are determined to a considerable extent by the abilities of those it admits and retains as students. This applies to all levels—lower division, upper division, and graduate. It is also true for all segments, but the emphases are different. The junior colleges are required by law to accept all high school graduates (even nongraduates may enter under some circumstances); therefore the junior colleges must protect their quality by applying retention standards rigid enough to guarantee that taxpayers' money is not wasted on individuals who lack capacity or the will to succeed in their studies. If the state colleges and the University have real differentiation of functions between them, they should have substantially different admission requirements. Both should be exacting (in contrast to public higher educational institutions in most other states) because the junior colleges relieve them of the burden of doing remedial work. Both have a heavy obligation to the state to restrict the privilege of entering and remaining to those who are well above average in the college-age group.

The subject matter covered by this chapter includes some topics specifically assigned to the Technical Committee on Selection and Retention of Students, including the following:

1. Measures of the validity of entrance requirements
2. Admissions policies and procedures
3. Retention of students
4. Getting the best students in the right institutions

Because the direction of the Survey Team's thinking ran counter to that of the Technical Committee on several important issues, it should be understood that some of the recommendations that follow are those of the Survey Team and not those of the Technical Committee.

MEASURES OF THE VALIDITY OF ENTRANCE REQUIREMENTS

The Technical Committee suggested as a guiding principle that admission requirements are valid for any one college if, first, they serve to qualify for admission those applicants whose educational purposes are properly met by the college and whose abilities and training indicate probable scholastic success in the college and, secondly, they serve to eliminate applicants not meeting these requirements.

The Survey Team, however, found other considerations that modify and interpret the principle stated. Each public institution cannot write its own charter but must fit into the uniform rules and regulations of the system of which it is a part. The usefulness of validity studies based on grades received in an institution can be destroyed if disproportionately high grades are awarded by it; therefore, continuous study of grading standards is necessary in order to reassure taxpayers and other institutions and segments of higher education that comparable standards exist in judging scholastic success. Moreover, state-supported institutions have an obligation to adjust their offerings and admissions policies to meet the long-run needs and to fit the fiscal capabilities of the state, as ascertained by constitutional and statutory authorities.

The Technical Committee suggested the following four common measures of validity:

1. Scholastic success in the first semester or year
2. Continuance in college
3. Rate of dismissal for poor scholastic performance
4. Comparative standing on objective tests

The Technical Committee regards scholastic success as the best single measure of validity. The Survey Team agrees, but prefers the use of several criteria in combination.

APPLYING VALIDITY CRITERIA

The data made available to the Survey Team by the three public segments fall far short of the completeness desired for judging the validity of admissions requirements. Junior college statistics are inadequate as grounds for support of, or opposition to, the existing "open-door" policy that admits students from all levels of ability.

State college data cover too short a period and are insufficiently comprehensive. The University figures, while more complete, are weak on testing.

Scholastic Success. Data from seven state colleges, for 1958-59 (see Technical Committee report), shows that 55 per cent of the freshmen admitted with five recommending units and 54 per cent of those admitted with six failed to make a *C* average in their first year. The records of those with seven recommending units (47 per cent below *C*) and with eight (44 per cent below *C*) indicate marginal validity that should be reinforced by a high score on a standard aptitude test.

Among the alternative University admission plans in use during 1957-58, judging from data in the Technical Committee report, the following are of doubtful validity: six *A* or *B* grades in last two years, "exceptions to rules," 12 *A* or *B* grades in last three years, and "highest 10 per cent of class."

Continuance in College. Persistence of students in higher education obviously is affected by a variety of factors that are largely outside the control of an institution unless the institution refuses to admit those with characteristics that make them higher potential dropouts. Low socioeconomic status, poor health, emotional instability, and marital involvements are common explanations of withdrawal and no return. The public institutions, located in urban settings and with mainly commuting students, would be expected to have lower persistence rates than private institutions with campus life and living accommodations for most students.

The state college materials supplied to the Survey Team provide almost no index to persistence of students admitted as freshmen over the whole undergraduate period. The "native" is shown as more likely to continue through the junior and senior years than the "transfer" student. The transfer who was eligible on the basis of his high school record is more persistent than the transfer who was not eligible. (Data taken from the Technical Committee Report)

The University records for all campuses show, in sample years, a persistence rate of about 55 per cent of entering freshmen in the eighth semester after entrance either receiving degree or still students (Technical Committee report). About 45 per cent withdrew before completing the eighth semester following admission. Approximately one-third of all withdrawals were below a *C* average at the time of exit.

Rate of Dismissal. This evidence indicates that around 15 per cent of the University freshmen entrants leave with scholastic deficiencies within the four-year period. This is a relatively small attrition for scholastic failure and indicates that the existing admission standards must be reasonably well-suited to the selection of students equipped for the level of work undertaken in the University. Discussion of dismissal will be resumed under "Retention" later in this chapter.

Standing on Tests. The Technical Committee declares: "Properly compared, the objective test is a better measure of the quality of the students admitted to a college than either the withdrawal or dismissal measures. Measured by correlations with instructors' grades in college, however, the objective test is not as good a measure of the quality of an admitted class as is the scholastic record of the first semester or first year for judgment on the basis of the purposes of the individual institution."

Scores on standardized tests may be particularly useful in comparing students in different institutions of the same system, of other segments in California, and of the nation as a whole.

RECOMMENDATIONS

It is recommended that:

1. The junior colleges, state colleges, and University make statistical studies of their entrance requirements, and report annually, in standard form, to the co-ordinating agency on validity judged by (a) scholastic success, (b) persistence, (c) rate of dismissal, and (d) scores on standard tests
2. Each public segment report annually to the co-ordinating agency on its grading standards, providing data on such matters as:
   a. Distribution of undergraduate grades awarded (proportion of each grade given for each institution, department, and by lower and upper division)
   b. Its grading differential with other institutions or segments as computed from the records made by transfers

Admissions Policies and Procedures

The junior colleges admit both high school graduates and nongraduates. Education Code Section 5706 requires junior colleges, assuming residence requirements are met, to accept "any high school graduate and any other person over eighteen years of age . . . capable of profiting from the instruction offered." The results of a questionnaire circulated at the request of the Technical Committee, to which 56 junior colleges replied, indicate that (a) 50 admit any high school graduate; (b) 36 admit any person over eighteen years of age; (c) 30 admit some students on a probationary basis.

The state college basic requirement is stated in terms of seven or more Carnegie units during the last three years in high school with *A* or *B* grades, but with no subject prescription except that physical education and military sciences are excluded. In 1958 about 80 per cent of first-time freshmen used this plan. Students with five or six units may enter if they score at or above the twentieth percentile on the national norm of a standard college aptitude test. As shown in the discussion of "validity," the latter group experiences difficulty, and over one-half fails to make a *C* average in their first year. Some 12 per cent of first-time freshmen entered by this method in 1958. Outside of the regular pattern of admission are three categories which were used to admit first-time freshmen: (1) "other" (foreign, out-of-state, and others not meeting standards in Section 925 (a) or (b) of California Administrative Code Title 5, Education); (2) "adult special;" and (3) "nondegree programs." In 1958 these methods accounted for 7 per cent of first-time freshman admittees.

For the University of California, the basic requirement is a *B* average in the last three years, expressed in grade points, in a pattern of 10 high school academic subjects; one year in American history and civics, three in English, one in algebra, one in geometry, one in laboratory science, two in foreign language, and one additional in either mathematics, foreign language, or laboratory science. About 90 per cent of the University's entering freshmen qualify under this plan. About 10 per cent qualify under alternative plans, including "highest 10 per cent in class," 12 *A* or *B* grades in last three years, six *A* or *B* grades in last two years, and "exceptions to the rules." The validity of all four of these secondary methods is considerably lower than for the basic requirement.

Public institutions ordinarily admit all students above a minimum "floor," who meet stated basic entrance requirements; private institutions often have both "floor" and a selective process for choosing among applicants who meet minimum requirements. It may be that the state colleges and the University in particular will have to work out some such combination plan in order to select the best students from the forthcoming flood of applicants. Both the state colleges and the University have made use of scholastic aptitude tests in the past. However, beginning in 1960, these will be required of all applicants for admission to both segments.

The admission of transfer students is especially important in California's tripartite system, because over one-half of all lower division instruction within the state—including private institutions—is done by junior colleges. Among the many useful services of the junior colleges is that of providing a proving ground for those who have not made records in high school good enough to justify direct entry into senior college. Thus quality control over lateral entry rises in importance now that the new student in state colleges and on University campuses is so often a junior rather than a freshman.

Beginning in 1961, the state colleges will require would-be transfer students who were not eligible on the basis of high school records to present a *C* (2.0 grade point) average on 60 units of college work, or a *B* (3.0) average on not less than 24 units. State colleges normally accept all junior college courses in computing minimum grade-point averages of applicants for transfer.

The University policy governing the acceptance of transfer students is stated by an Academic Senate rule requiring the Board of Admissions to "maintain the standard of preparation required of students who enter the University of California," in the admission of applicants for advanced standing. Effective in 1957, transfer students who were ineligible on the basis of their high school records have been required to present a 2.4 grade-point average on 60 or more units, or a 2.4 on 30, plus a satisfactory score on the Scholastic Aptitude Test.

In view of the foregoing, the Survey Team later recommends some changes in the admission policies of both the state colleges and the University of California. Joint Staff studies based on examination of transcripts of 73,679 California public high school graduates in 43 counties showed that 12.8 per cent of these graduates met the *B* average in the "a" to "f" subject pattern for admission to the University of California and an additional 30.1 per cent (or a total of 42.9 per cent) met the state college admission requirement under which most students are admitted to the state colleges.[1] (That requirement is 7 Carnegie units of course work in subjects other than physical education and military science with grades of *A* or *B* (not an average) in the last three years of high school.)

According to the state college section in the report of the Technical Committee on Selection and Retention of Students, 80 per cent of the new freshmen admitted to the state colleges in 1958 met this requirement.

Other methods by which students are admitted to the University of California and the state colleges are discussed earlier in this chapter. Taking these into account, it is estimated that approximately 15 per cent of public high school graduates qualify for admission to the University of California and some 50 per cent to the state colleges.

The recommendation which follows is that these per cents be reduced to $12\frac{1}{2}$ and $33\frac{1}{3}$ respectively. The important question is what effect it will have on the opportunity of California public high school graduates to continue their education in publicly supported institutions in the state. The position of the Master Plan Survey Team is that so long as any high school graduate can be admitted to a junior college (at present non-high-school graduates may be admitted), it will not reduce that opportunity for students able and willing to meet the requirements for transfer to the upper division in the state colleges and the University of California. Figure 4 shows graphically this situation.

The Survey Team has received the general impression that insufficient attention is given to the selection and orientation of transfer students in both the state colleges and the University. Both systems should be asked regularly how their transfer students are doing and whether the standards of 2.0 for the state colleges and 2.4 for the University are high enough for a transfer student who was deficient in high school grades.

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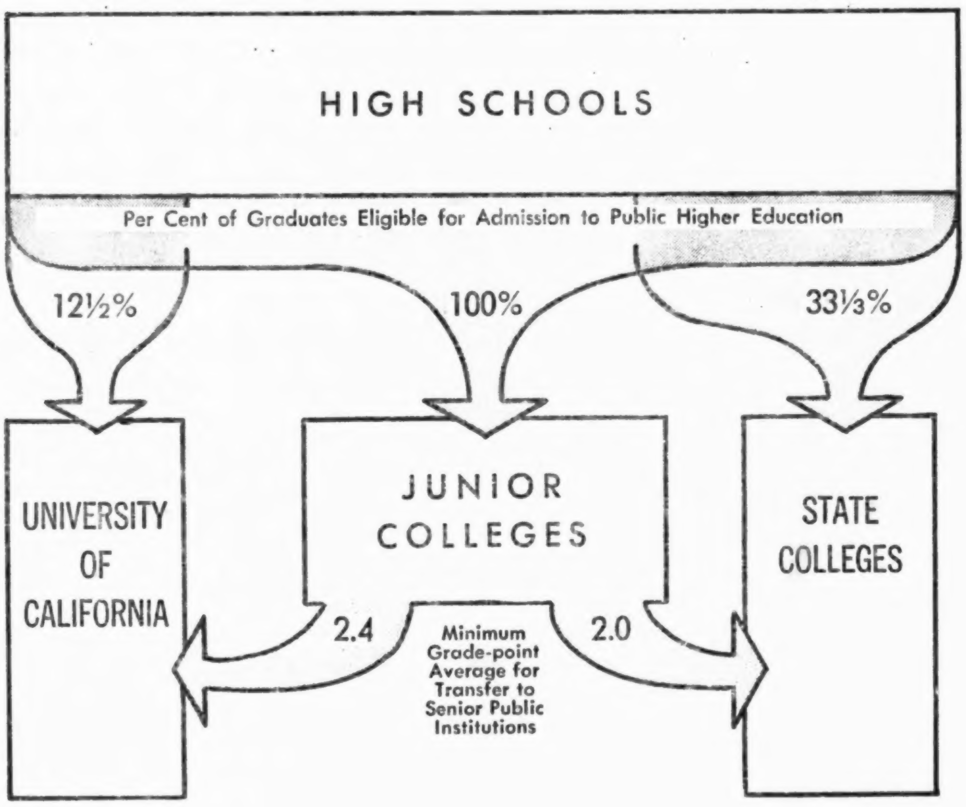
[1] T. C. Holy and Arthur D. Browne, "A Study of the Eligibility of Graduates of California Public High Schools for Enrollment in California Public Institutions of Higher Learning," *California Schools,* XXX December, 1959, 501.


HIGH SCHOOLS
Per Cent of Graduates Eligible for Admission to Public Higher Education
12½%
100%
33⅓%
UNIVERSITY OF CALIFORNIA
JUNIOR COLLEGES
STATE COLLEGES
2.4
2.0
Minimum Grade-point Average for Transfer to Senior Public Institutions

WHO IS DENIED ACCESS TO PUBLICLY SUPPORTED INSTITUTIONS?

1. As a freshman: No graduate from an accredited high school.
2. To upper division work: (a) Students who fail to achieve a "C" average in lower division work; (b) Junior college students who fail to achieve the minimum grade-point average in 56 units of work.

FIGURE 4
Eligibility for Public Higher Education
(Under Master Plan Survey Proposals)

RECOMMENDATIONS

It is recommended that:

1. In order to raise materially standards for admission to the lower division, the state colleges select first-time freshmen from the top one-third[2] (33⅓ per cent) and the University from the top one-eighth[3] (12½ per cent) of all graduates of California public high schools with the following provisions:

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[2] As defined by the State College System.

[3] As defined by the University of California.

a. Continuation of existing special programs and curricula involving exceptions to this rule subject to approval by the respective boards, and these to be kept to a minimum, and those that are continued to be reported annually to the co-ordinating agency. Any new special programs and curricula involving such exceptions to be approved by the co-ordinating agency.

b. Graduates of private and out-of-state secondary schools to be held to equivalent levels.

2. Implementation of Recommendation 1 be left to the two systems with the following provisions:

    a. Each to have the new requirements in force for students admitted for Fall, 1962

    b. Inasmuch as the Survey Team favors acceptance in both systems of a requirement that all, or almost all, of the recommending units for admission shall be in college preparatory courses, that the application of such a requirement be carefully studied during 1960, and this principle be applied as fully as possible throughout both systems

3. For both the state colleges and the University, freshman admissions through special procedures outside the basic requirements of recommending units of high school work or aptitude tests or both (such as specials and exceptions to the rules) be limited to 2 per cent of all freshman admissions in each system for a given year. Furthermore, that all "limited" students be required to meet regular admission standards.[4]

4. Junior college functions now carried by state colleges and nondegree lower division programs at any state college or University campus (other than extension) be subject to the following rule:

    The equivalent of junior college out-of-district tuition be charged beginning in Fall, 1960, against the counties of residence of all lower division students who are ineligible to admission by regular standards, and the funds collected paid to the General Fund of the state.

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[4] State Board of Education action makes this effective Fall of 1960.

Furthermore, that such junior college functions now carried by state colleges at state expense be terminated not later than July 1, 1964, all admittees thereafter being required to meet standard entrance requirements

5. The state colleges and the University require a minimum of at least 56 units of acceptable advanced standing credit before considering the admission of applicants ineligible to admission as freshmen because of inadequate grades in high school, except for curricula that require earlier transfer,[5] and except also that each state college and campus of the University, through special procedures developed by each, be permitted to accept for earlier transfer not more than 2 per cent of all students who make application for advanced standing in any year

6. Undergraduate applicants to the state colleges and the University who are legally resident in other states be required to meet higher entrance requirements than are required of residents of California, such out-of-state applicants to stand in the upper half of those ordinarily eligible. Furthermore, that there be developed and applied a common definition of legal residence for these public segments.

7. A study of the transfer procedures to both the University and the state colleges be undertaken through the co-ordinating agency during 1960 with the view of tightening them. Evidence available to the Master Plan Survey Team indicates the need for such action.

8. A continuing committee on selection, admission, and retention as a part of the co-ordinating agency be established, to make further studies in these fields (see Recommendations 1 and 2 on pages 73 and 74) and to report annually to the appropriate agencies and persons on:
    a. Transfer procedures as indicated in Recommendation 7
    b. State college and University procedures in admission to the graduate division

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[5] Both systems have already adopted 60 unit rules for such transfer students, but each left a way to bypass it. The state colleges allow admission on 24 units with *B* average; the University, on 30 or more with 2.4 grade point average and a satisfactory score on the Scholastic Aptitude Test.

   c. The desirability of differing standards of admission for the varying programs within each segment of publicly supported institutions

9. Private institutions of higher education in California in the approaching period of heavy enrollments strive for increased excellence by adopting rigorous admission and retention standards.

RETENTION

All 56 junior colleges reporting in 1959 made use of probation (in 1954 only 26 per cent did so), and all used dismissal for scholastic failure, but standards and practices varied widely among them. The Administrative Code authorizes the state colleges to place on probation or disqualify a regular student who fails to maintain a *C* average. Practices vary considerably under this rule.

The University pattern generally (except in engineering and chemistry) is to place a student on probation if he is down six or more grade points at the close of the first semester or fails to make a *C* average in any subsequent semester, and to dismiss him if he fails to make a *C* average while on probation, or fails to make a *C* or above in four units, or fails to remove himself from probation after two semesters. Practices vary somewhat from school to school and college to college.

The Technical Committee commented concerning retention of junior college freshmen: "Freshman students should not ordinarily be dismissed prior to the completion of one year in order that ample opportunity will be afforded for guidance and adjustment." The Survey Team agreed that in many cases this was in accord with good educational counseling practice, yet believed that any student who fails be "subject to dismissal," whether he is actually separated or not, and that malingering should not be permitted on any level of higher education. Vigorous use of probation and the threat of dismissal may help some "late bloomers" to flower sooner.

RECOMMENDATIONS

It is recommended that:

1. Each segment strive for greater uniformity in policy and practices on probation and dismissal; that among segments where

the programs are comparable, an effort be made to secure uniformity in policy and practices on probation and dismissal; and that each segment report annually full retention statistics to the co-ordinating agency

GETTING THE BEST STUDENTS IN THE APPROPRIATE INSTITUTIONS

The selection and retention devices suggested will not guarantee either that all able young Californians will go to college or university or that those who do will attend institutions best able to serve their needs. Among the formidable barriers that prevent many high school graduates of real ability from furthering their education are lack of incentive, early marriage, interruption for military service, and shortage of financial resources.

What can be done to minimize the waste of talent that comes from such failure to develop capacities? Ambition commensurate with ability can be stimulated by high school and junior college counselors. Housing and plentiful job opportunities for married students often bring college within the realm of possibility for those who wed early. The availability of higher educational facilities in the community of residence constitutes an important inducement for young people to pursue academic studies.

STATE SCHOLARSHIPS AND FELLOWSHIPS

Because recommendations on scholarships in both the Strayer Committee Report[6] and the Restudy[7] undoubtedly had a bearing on the beginning of state awards to students, these are reviewed briefly here.

The Strayer Committee Report of 1948 recommended the establishment of a subsistence scholarship program to be administered jointly by the State Board of Education and The Regents of the University and to make two different types of awards as follows: (a) 2,000 undergraduate awards of $750 each, to be made annually and to be used for attendance at any of the public higher education institutions in the state and (b) 500 fellowships in the amount of $1,000 each, to be awarded annually by The Regents of the University for use in the graduate and professional schools of the University.

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[6] Monroe E. Deutsch, Aubrey A. Douglass, and George D. Strayer, *A Report of a Survey of the Needs of California in Higher Education*. Berkeley: University of California Press, 1948.

[7] T. R. McConnell, T. C. Holy, and H. H. Semans, *A Restudy of the Needs of California in Higher Education*. Sacramento, California State Department of Education, 1957.

In substance, the scholarship program recommended in the 1955 *Restudy* provided for a maximum of 3,200 undergraduate scholarships not to exceed $600 each and to be awarded annually to legal residents of California based on actual and demonstrated need. These awards could be used at either public or private institutions in the state for the payment of living expenses as well as tuition and fees. The recommendations further provided that owing to the shortage of teachers in the state 40 per cent of the total number of annual awards should be made to students preparing to teach.

The California State Scholarship Program[8] adopted by the Legislature in 1955 has been the principal state mechanism for direct financial assistance to promising students. During 1959-1960 it provided 2,560 students with tuition scholarships at a total cost of approximately $1,224,000. These undergraduate scholarships pay "tuition or necessary fees or both tuition and fees" up to $600 per academic year. In this respect the current program differs from that recommended in the Strayer Committee Report and the *Restudy* in that the awards may not be used for subsistence. In practice, they have been used more in private than in public institutions. Not only has the program afforded the youth of California a greater freedom of choice, it also may effect net savings to the taxpayers in both capital investment and operating costs. Independent institutions have been encouraged to expand enrollment and facilities; in the long run such expansion may relieve somewhat the pressure on public higher education.

Three problems encountered by the Survey Team may be partially solved through expansion of the program. As more and more students apply for awards, and as tuition rates increase, there is need for additional scholarships and higher stipends. In order to provide for the student with little means of support or who prefers a public institution, some provision is needed for subsistence. To utilize more fully excess capacity in the graduate divisions of private and public institutions and to provide more nearly the supply of advanced degree holders required to meet the coming demand for college teachers, the program should be expanded upward to include the award of graduate fellowships.

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[8] Although the legislation creating this program fixes a terminal date of July 1, 1964 (Section 31219 of the 1959 Education Code), the recommendation for its expansion which follows assumes the repeal of this terminal date. (See Appendix I)

RECOMMENDATIONS

It is recommended that:

1. The present scholarship program be expanded to include additional scholarships to provide for the rapidly increasing number of qualified applicants
2. The amount of the scholarship be increased to compensate for additional educational costs since the original stipend was established
3. In the event a state scholarship recipient elects to attend a junior college before entering a four-year institution, his scholarship be retained for him, provided his junior college record meets the level required by the State Scholarship Commission
4. In addition to the State Scholarship Program, a new and separate bill be enacted to provide subsistence grants to recipients of state scholarships, the amount of such grants to be based on the financial need of the individual students, the maximum amount being that necessary to defray expenses of room and board at the average of such charges to the student in institutionally operated student residences
5. In view of the need to divert more college graduates into teaching and the need for more funds to provide fellowship assistance to those in graduate training, a new State Graduate Fellowship Program be established to accomplish these purposes and to assist in making it possible for graduate schools to operate at as near capacity as possible

ALLOCATION OF STUDENTS AMONG INSTITUTIONS

In the section on "Modified Projections" in Chapter IV, diversion was proposed of approximately 50,000 lower division students in 1975 from the State College System and from the University of California to junior colleges. The means of accomplishing this transfer are left to the governing boards of the two segments. The tightened admission standards, suggested earlier in this chapter, will help to divert many students to the junior colleges; so may overcrowded conditions on state college and University campuses. Persuasive counseling might help "sell" the merits of the junior colleges. Increased prestige of the junior colleges can amplify their attraction. Eventually, the systems may have to resort to quotas and develop methods of selection in addition to basic admission requirements.

Within each system a similar problem must be faced. The 1975 *status quo* full-time enrollment projections for Long Beach, Los Angeles, San Diego, and San Jose state colleges exceed the 20,000 limit suggested by the Survey Team. Those for the Berkeley and Los Angeles campuses of the University exceed the 27,500 maximum suggested. (See Tables 5 and 6 of Chapter IV.) Therefore, each system must find ways to divert applicants from one institution to another within the same segment.

Obviously, this is a difficult and dangerous task, but it must be faced immediately by governing boards because some of the institutions named will be approaching their ceilings even before 1965.

If there is too long a delay, decisions may have to be made in an atmosphere of clamor and controversy not conducive to careful and deliberate consideration.

Organizational and procedural aspects are relatively simple. Admissions offices will have to be expanded to administer any plan more complicated than enforcement of the basic admission requirements. If subjective judgments are going to be made on applicants, beyond their scholastic records and aptitude scores, then persons of maturity—preferably with professional competence in teaching and counseling—should serve as interviewers and make or recommend the decisions. A sensible first step in preparing to meet the problem of overcrowding would be to put on application forms a question calling for second and third choices of institution in case the first is not available.

Among the better criteria suggested for choosing those applicants to be admitted to a particular institution, when all cannot be accommodated, are the following:

1. The best students should be granted their first choice. The Technical Committee on Selection and Retention of Students stressed the importance of giving the exceptional applicant the privilege of choosing where he is to go.
2. Continuing or re-entering students at each institution should be given preference over new students.
3. Applicants within commuting range might be chosen before those requiring dormitory accommodations.

4. The more advanced student could be favored over the less advanced.

The team is *less* favorably impressed with these possible criteria:

1. Students with extracurricular skills—athletic, forensic, musical, might be preferred.
2. Sons and daughters of alumni might be given some preference.
3. Applications might be accepted in the order in which they are received, providing admission standards are met.
4. Choice by chance, through drawing lots, could be resorted to if other means fail.

Each system must determine for itself how to even up the student load. In attempting to do so, there will be some "leakage" to other segments and—more serious in consequences—abandonment of college plans. Insofar as possible, the Survey Team favors attempting the redirection of applicants by positive means rather than negative. The attractive features of smaller colleges and campuses can be stressed. More personal instruction, a richer student life, and superior housing and parking facilities are among the common assets that draw students to smaller institutions. Whether by conviction or coercion, or both, the segments must divert students from overcrowded institutions to those with unused capacity.

CHAPTER VI

INSTITUTIONAL CAPACITIES AND AREA NEEDS

In order to estimate the needs of California and of the several economic areas within the state for additional capacity to accommodate the projected college enrollment in 1975 in the junior colleges, the state colleges, the University of California, and the independent colleges and universities, the Technical Committee on Institutional Capacities and Area Needs was asked to do the following:

1. To determine the enrollment capacities of the state colleges and university campuses when currently funded expansion is completed
2. To break down by State Economic Areas the capacities of the junior colleges, state colleges, the University, and the independent colleges and universities
3. To determine the estimated number of students in higher education in 1975, in excess of present and currently funded capacities of the colleges and universities, by divisional levels and by State Economic Areas
4. To point up the needs of the several State Economic Areas for new junior colleges, state colleges, and campuses of the University by 1975 and to establish priorities for their creation
5. To set forth as accurately as possible minimum, optimum, and maximum sizes (in terms of enrollments) for junior colleges, state colleges, and campuses of the University
6. To appraise the current utilization of physical plants in public institutions of higher education and to recommend improvement of utilization without decreasing the effectiveness of instructional, research, and service programs. In addition to completing this assignment, the Technical Committee brought up to date the 1958 *Study of Faculty Demand and Supply in California*

Higher Education, 1957-1970,[1] for the various segments. However, that portion of the committee's report is covered in Chapter VII.

Assumptions

This is necessarily a *status quo* study and is based on the assumption that policies now in effect will remain without major modifications. The enrollment projections used are based on the assumption that the recent and current trends in the economy of the state and nation will continue. Obviously, any changes in this complex of factors will affect the findings of this study. In most instances, however, the impact of such changes can be reasonably well anticipated and adjustments made accordingly.

Sources of Data

The 148 colleges and universities included in this study are those listed as "Institutions of Higher Education in California" in the 1958-59 edition of the *Education Directory* prepared by the Office of Education.[2] These include 70 junior colleges (63 public and seven private) and technical institutes which offer at least two years, but less than four years, of college-level studies beyond the twelfth grade; 25 colleges and universities which offer the bachelor's degree only and first professional degrees or both, and 44 colleges and universities offering the master's or a second professional degree or both. This latter group includes institutions offering the customary first graduate degree and any degree earned in the same field after the first professional degree, or after a bachelor's degree in the same field. Among these institutions are nine colleges and universities that grant the doctor of philosophy or an equivalent degree. Table 12 shows the distribution according to level of offering.

Enrollment projections used throughout the chapter were obtained from the State Department of Finance. Most of the other information was obtained through a series of questionnaires sent to the 148 colleges and universities. The degree of response is shown in Table 13.

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[1] T. C. Holy and H. H. Semans. *A Study of Faculty Demand and Supply in California Higher Education, 1957-1970.* Prepared for the Liaison Committee of The Regents of the University of California and the California State Board of Education. Berkeley: University of California Press, 1958.

[2] *Education Directory, 1958-1959, Part 3, Higher Education.* Washington, D.C.: Office of Education, U.S. Department of Health, Education, and Welfare, 1959. (Available from Superintendent of Documents, U. S. Government Printing Office, Washington 25, D.C.)

TABLE 12

Institutions of Higher Education in California by Highest Level of Education Offered

Level of offering	Number of institutions
Terminal	70
Bachelor's	25
Master's	44
Doctorate	9*
Total institutions	148

* All campuses of the University of California are counted together as one institution.

TABLE 13

Number of Questionnaires Sent, to What Type of Institution, Number Returned, and Per Cent of Response

Segment	Number sent	Number returned	Per cent of response
Junior colleges	70	68	97
State colleges	13	13	100
University of California (one per campus)	7	7	100
Independent colleges and universities	64	54	84

In addition, much valuable information was received from the California Junior College Association and faculty members of colleges and universities in the state. Other significant contributions were made by the California State Department of Education, the State Department of Finance, the University, and the Research Division of the National Education Association.

The present study was made under severe time restriction and could not have been completed without great reliance on previous studies, especially *A Restudy of the Needs of California in Higher Education*,[3] *A Study of the Need for Additional Centers of Public Higher Education in California*,[4] and *A Study of Faculty Demand and Supply in California Higher Education, 1957-1970*.[5]

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[3] T. R. McConnell, T. C. Holy, and H. H. Semans. *A Restudy of the Needs of California in Higher Education*. Sacramento: California State Department of Education, 1955.

[4] H. H. Semans and T. C. Holy, *A Study of the Need for Additional Centers of Public Higher Education in California*. Sacramento: California State Department of Education, 1957.

[5] T. C. Holy and H. H. Semans. *A Study of Faculty Demand and Supply in California Higher Education, 1957-1970*. Prepared for the Liaison Committee of The Regents of the University of California and the California State Board of Education. Berkeley: University of California Press, 1958.

STUDENT CAPACITIES OF PHYSICAL PLANTS

In *A Restudy of the Needs of California in Higher Education* (1955) the study of capacities was done largely by a detailed analysis of the square feet of floor space in the physical plants, to which was applied standard floor area requirements per full-time student. In addition, detailed information was obtained on the use of all classrooms and laboratories in each segment. On the basis of the foregoing, new utilization standards were recommended and approved by the two governing boards. Because of limited time a simpler approach was necessary in this study. Each institution was asked to report the number of students its physical plant could accommodate.

DELIMITATION

This study sought the following information concerning the capacities of the physical plants of the state's colleges and universities, both public and private, as of the time of completion of "assured" construction—that is, construction for which financing is certain.

1. The number of students, by divisional levels, who can be accommodated
2. The assured capacity of temporary buildings that will be continued in use
3. The seating capacities of the libraries—crucial buildings in any institution's educational program

Capacities are generally expressed in terms of full-time students, i.e., undergraduates carrying 12 or more units and graduate students who are making normal progress toward an approved goal. It is assumed that part-time students, many of whom attend classes in the late afternoon and evening hours, will continue to be accommodated in the colleges and universities during those hours and during slack periods in the regular day programs.

INSTITUTIONAL CAPACITIES

Each college and university in the study was asked for its student capacities in terms of its own educational programs, policies and plans, and as of the completion of presently assured construction. The term "presently assured construction" was defined in two ways:

1. For the state colleges and the University, it was specifically termed "funded expansion," and was defined as any construction which has been provided funds for working drawings, or for any stage beyond.

   In this connection it should be noted that "assured construction" of the state colleges and the University includes construction for which additional appropriations are needed. The following is a summary of unappropriated sums for these two segments:

Segment	*Amounts Yet to Be Approved*
State colleges	$26,443,500
University of California	40,381,140*
Total	$66,824,640

* This sum excludes the unappropriated funds for the San Francisco campus; University of California, Los Angeles, Medical Center; Mt. Hamilton; and state-wide services and administration.

2. Financing the capital outlay programs of the junior colleges and the independent institutions is somewhat more involved, since the money comes from a variety of sources. For these institutions, "assured construction" was defined as "construction for which financing is now assured." Although this definition is a close equivalent of that used for the state colleges and the University, it is somewhat more restrictive.

Table 14 shows the student capacity for each segment after completion of assured construction and the per cent of increase over the Fall, 1958, capacity.

CAPACITY IN TEMPORARY FACILITIES

A permanent building is defined as one which is to be retained according to the long-range physical master plan of the institution, while a temporary one is defined as one which is not to be retained. As defined in this study, then, the "temporariness" of a building has nothing to do with the nature of its construction, but rather with the use to which it is to be put in the future. Table 15 shows the per cent of student capacities which, at the time of completion of assured construction, will be in buildings which the institutions plan eventually to remove from service.

Applying the above total per cent to the total student capacity shows that at the time of completion of assured construction more than 42,000 students will be in buildings to be removed from instructional service, thus increasing the difference between institutional capacities and 1975 enrollment needs.

TABLE 14

Student Capacities After Completion of Assured Construction and Per Cent Increase Over Fall, 1958, Capacities

Segment	Fall, 1958, capacity	Capacity after completion of assured construction	Per cent increase over Fall, 1958
Junior colleges	135,068	170,020	25.9
State colleges	43,095	*68,483	58.9
University of California	34,156	51,500	50.8
Independent colleges and universities	60,400	71,426	18.2
Total	272,719	361,429	32.5

* This figure includes California Maritime Academy and a capacity of 500 students each for Alameda and Orange County State colleges.

TABLE 15

Per Cent of Instructional Space in Temporary Buildings, by Segment, Fall, 1958

Segment	Per cent in temporary buildings
Junior colleges	14.2
State colleges	3.2
University of California	22.0
Independent colleges and universities	6.6
State total	11.7

CAPACITY OF LIBRARY FACILITIES

Of the 60 public junior colleges for which library capacities were obtained, 35, or 58 per cent will have, after completion of assured construction, at least 10 per cent as many library study stations as capacity for full-time students. The library capacity of five of the 13 state colleges and four of the five major University of California campuses will be at least one-third that of the capacity for full-time students. The American Library Association's minimum standards for library seating capacities vary according to the kind of institution. For junior colleges, the Association recommends a seating capacity of from 10 to 25 per cent, whereas, for colleges and universities, it recommends a seating capacity of at least one-third that of the student capacity of the school.

It is difficult to draw meaningful conclusions concerning the library capacities of the independent colleges and universities since this group includes private junior colleges, professional schools, four- and five-year schools, and universities offering the doctorate. The library capacity needs of these institutions will vary considerably, depending on the nature of the institution and its curricular emphasis. There is a wide variation in library capacities ranging from no library capacity at Electronic Technical Institute, which offers only lower division work, to 146.4 per cent of student enrollment capacity at Claremont Graduate School. In the case of this latter institution, no doubt the library was designed to accommodate subsequent increases in student capacity.

RELATIONSHIP BETWEEN CAPACITY AND PROJECTED ENROLLMENTS

Table 16 contrasts the student capacities which will exist in the colleges and universities in California at the time of completion of assured construction with the projected 1975 graded enrollments, i.e., those assigned to all of the three divisions—lower, upper, and graduate. *The enrollment projections are based on the status quo* and do not take into consideration the diversion of students to the junior colleges as recommended elsewhere in this report. They also exclude the special students, that is, those not classified by divisional levels, and enrollments projected by the two medical schools. It will be seen from Table 16 that at the time of completion of assured construction (the bulk of which will be complete in 1962) there will be capacity for 361,429 students in all the state's colleges and universities, both public and private. The projected full-time graded enrollment in 1975 is 648,650. If this is subtracted from the capacity figure of 361,429, then the difference, which is 287,221, is the number of students for whom physical facilities must be provided. It should be noted that this difference does not take into account the 42,000 students mentioned earlier who will be in buildings scheduled for removal from instructional service.

Lest it be forgotten, it is again pointed out that the figures in Table 16 are based on the assumption that the distribution of enrollment in the various segments in 1975 will approximate that of 1959. If the recommendation to divert by 1975 some 50,000 students, who would normally be enrolled in the lower divisions of the state colleges and the University, to public junior colleges is implemented, the figures presented here would be materially changed. Such a diversion would change by 1975 the enrollment figures in the public junior

TABLE 16

State-wide Full-time Graded Student Capacities of California Colleges and Universities After Assured Construction, as Compared With Projected 1975 Full-time Enrollments [1]

Segment	Lower division	Upper division	Graduate division	Total
Public junior colleges				
Projected 1975 enrollment	246,350	----	----	*246,350
Capacity	170,020	----	----	170,020
Difference	76,330	----	----	76,330
State colleges				
Projected 1975 enrollment	91,750	96,300	11,950	200,000
Capacity	29,337	35,538	3,608	68,483
Difference	62,413	60,762	8,342	131,517
University of California				
Projected 1975 enrollment	45,900	50,450	34,750	*131,100
Capacity	18,050	20,650	12,800	*51,500
Difference	27,850	29,800	21,950	79,600
Independent colleges and universities				
Projected 1975 enrollment	34,250	25,550	11,400	*71,200
Capacity	29,816	26,273	15,337	71,426
Difference	4,434	—723	—3,937	—226
State totals				
Projected 1975 enrollment	418,250	172,300	58,100	*648,650
Capacity	247,223	82,461	31,745	361,429
Difference	171,027	89,839	26,355	287,221

[1] The projected enrollments are those of the State Department of Finance and the capacities are those furnished by the institutions.

* Excludes 5,050 special students in the junior colleges, 2,750 in the independent colleges and universities, 2,600 at the San Francisco campus of the University of California, and 2,300 at the Los Angeles Medical Center, a total of 12,700. Adding this number to the total projected 1975 enrollment of 648,650 in this table gives 661,350, the total given in Tables 2 and 4.

colleges from 246,350 to 296,350, and as a result the "difference" figure between the capacity of assured construction and projected enrollment would change from 76,330, shown in Table 16, to 126,330. By this diversion, however, provision for 50,000 fewer students in state colleges and the state university will be required.

UNUSED PHYSICAL CAPACITY FOR GRADUATE STUDENTS AT THE DOCTORAL LEVEL

Since one of the basic issues in the Survey is that of an adequate supply of well trained college and university staffs, effort was made to ascertain the extent of unused physical space for graduate students at the doctoral level in the University of California and the independent colleges and universities. Each institution was asked how many more graduate students its institution could accommodate with present physical facilities (staff was not considered) than were served in the fall semester, 1958. Responses from both public and private universities indicate unused physical capacity for approximately 1,100 graduate students at the doctoral level (excluding medical and other professional schools), with the most room in the fields of agriculture, education, English, modern languages, and social sciences. While the reports on additional capacity at the master's degree level were not conclusive, it appears that there is presently capacity for some additional expansion at this level.

FINDINGS

1. The "assured construction capacity" of the colleges and universities of the state for full-time students is 32.5 per cent greater than their Fall, 1958, capacity.
2. This total assured construction capacity of 361,429 students will need to be increased by some 287,000 or 79.5 per cent by 1975 to meet the projected enrollments of 648,650 full-time graded students in that year. (See second footnote on Table 16 explaining the difference between this total and that in Chapter IV.)
3. The assured construction capacity figure and the projected 1975 enrollment figure for all levels in the independent colleges and universities are very close—with a difference of only 226 capacity over projected enrollment. At the graduate level alone,

however, these institutions have an excess capacity of 3,937 over projected 1975 graduate enrollments.

4. After assured construction is completed, a total of 11.7 per cent or more than 42,000 students, will be in buildings scheduled for removal from instructional service.
5. After the funded construction is completed, 58 per cent of the public junior colleges will have at least 10 per cent as many library study stations as capacity for full-time students, which falls within the standard recommended by the American Library Association.
6. Five of the 13 state colleges and four of the five major University of California campuses will, after completion of funded construction, have at least one-third (the minimum recommended by the American Library Association) as many library study stations as capacity for full-time students.
7. There is at present capacity for approximately 1,100 additional students at the doctoral level with the most room in the fields of agriculture, education, English, modern languages, and social sciences.

CONCLUSIONS

1. Since practically all junior college students attend institutions within commuting range of their homes, the capacity for junior college students in one State Economic Area will have a very limited effect on the need for additional junior college facilities in other State Economic Areas. (The Technical Committee Report shows that the total excess capacity over 1975 projected enrollments in six of the 19 State Economic Areas will be 3,659.)
2. The excess of assured capacity over 1975 projected enrollments in the independent colleges and universities at the graduate level, in the amount of 3,937, represents available capacity presently existing which might substantially relieve the enrollment pressures in the public institutions. The *Restudy* (p. 372) contains this recommendation with respect to such unused capacity:

   > In those areas where the need for trained personnel and the number of qualified students seeking enrollment exceeds the capacity of the currently available facilities in public institutions while under-used capacities in pri-

> vate institutions are available, [the State] contract with these institutions for enrolling such students in their educational programs.

Utilization of Physical Plants

In 1948 the Strayer Report,[6] and again in 1955 the *Restudy of the Needs of California in Higher Education,*[7] presented detailed analyses of plant capacity and plant utilization. In both reports specific recommendations were made and the *Restudy,* in particular, gave consideration to the total problem of developing a balanced campus. This study does not duplicate these previous analyses of space standards and room and student station use, but rather reviews these earlier standards and recommendations to determine the extent to which they have been implemented and the degree to which they have been instrumental in achieving greater utilization, if such is the case.

Specifically, the purposes of this study are as follows:

1. To review existing standards of utilization as developed both by the Strayer Report and the *Restudy*
2. To determine, if possible, the extent to which existing standards are being achieved
3. To recommend modifications of existing standards for both room utilization and student station utilization where such are needed
4. To propose additional devices, techniques, and procedures which could increase still further the utilization of both classrooms and student stations without interfering with the educational program.

PLANT UTILIZATION AND UTILIZATION STANDARDS

As a result of its study, the Strayer Committee in 1948 recommended that an average utilization of 29 hours per week be accepted as an attainable standard for the total instructional rooms (laboratory and nonlaboratory combined) in estimating the capacity of the California state colleges and the various campuses of the University (Strayer Report, p. 67). This recommendation was approved by both The Regents and the State Board of Education.

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[6] Monroe E. Deutsch, Aubrey A. Douglass, and George D. Strayer, *A Report of the Survey of the Needs of California in Higher Education. Op. cit.*

[7] T. R. McConnell, T. C. Holy, and H. H. Semans, *A Restudy of the Needs of California in Higher Education. Op. cit.*

The *Restudy* recommended a standard room utilization of (a) classrooms of 36 scheduled hours per week with class enrollments, after the first month of the term, averaging 67 per cent of room capacity, and of (b) teaching laboratories of 24 scheduled hours per week with class enrollments, after the first month of the term, averaging 80 per cent of room capacity (*Restudy*, p. 321). Both the State Board of Education and The Regents approved this recommendation as a desirable goal.

The University is currently using both the *Restudy* utilization and space standards in projecting its building needs, although it is the studied opinion of the chief planning analyst for the University that the utilization standards for classroom and laboratories cannot be achieved. The experience of the state colleges has caused the Department of Education, with the consent of the State Department of Finance, to adopt the following utilization standards, which are a modification of the *Restudy* standards. The determination of facilities needed for the state colleges is presently based upon standards which call for (a) an average room use of 30 hours per week with 75 per cent student station utilization for all classrooms and seminars, (b) an average room use of 25 hours per week with an 85 per cent student station utilization for all activity rooms, and (c) 20 hours of room use per week with 85 per cent utilization of student stations for all teaching laboratories.

In 1957 Russell and Doi[8] studied the room utilization of 57 institutions maintaining programs leading to the bachelor's or higher degree. They found, as is generally the case, extreme ranges both in room and student station utilization. However, even in the 10 per cent of the 57 institutions with greatest utilization of their plants, neither their room nor student station utilization was as high as the standards recommended in either the Strayer Report or the *Restudy*.

Experience in the state colleges, with their current utilization standards shown above, indicates that while the student station utilization of 85 per cent for both special activity rooms and for teaching laboratories might possibly be attained, the 75 per cent utilization of student stations in classrooms is unrealistic chiefly because of the wide variations between the size of classes and the seating capacity of the classrooms. Likewise, for the University campuses, while the *Restudy* standard of 80 per cent student station utilization for laboratories is a possibility, the 67 per cent student station utilization standard for classrooms and seminars is excessively high under current operational procedures.

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[8] John Dale Russell and James I. Doi, *Manual for Space Utilization in Colleges and Universities*. American Association of Collegiate Registrars and Admissions Officers. Menasha, Wisconsin: George Banta Co., 1957, p. 115.

POSSIBLE METHODS FOR INCREASING PHYSICAL PLANT UTILIZATION

Expert opinion and judgment has been sought in an effort to determine what new practices, as well as what modifications of existing practices, might be proposed in an effort to effect greater utilization of physical plants. It should be noted here that better use of physical plants is a very effective means of achieving economy. This study indicated that the following might be the most fruitful:

1. Class or room scheduling:
    a. Scheduling as many organized classes between 12:00 noon and 5:00 p.m. as between 8:00 a.m. and 12 noon. The prevailing pattern for many years has been classes at 9:00 through 11:00 a.m. on Monday, Wednesday, and Friday.
    b. Scheduling three-hour classes on Tuesday, Thursday, and Saturday morning, or three-hour classes on Tuesday and Thursday using one and one-half hours on each of the two days or both
    c. Scheduling of resident students for evening classes, especially laboratory classes where need is great and utilization generally low
    d. Centralization of control on each campus of all instructional spaces, particularly those spaces used by more than one department
2. Use of electronic equipment for registration (scheduling) procedures. Such equipment has been recently installed at Purdue University and has been found to be highly satisfactory.
3. Extension of school day to include evening classes (not to be confused with adult education programs). There are, of course, concomitant problems of staffing, use of auxiliary facilities such as library, cafeteria, parking, housing, and even maintenance problems to be considered.

4. Development of a trimester (three-term year) or the adoption of the four-quarter system. Most school calendars now provide for two 16- to 18-week semesters. The trimester plan would divide the calendar year into three terms of 14 to 15 weeks each. This plan would require only a minimum of curricular adjustments, but it would have major implications in other areas. The four-quarter system, with about 12 weeks in each quarter, seems to have most of the advantages of the trimester plan and fewer disadvantages. Among the institutions now using the four-quarter plan are Stanford University, California State Polytechnic College, University of Chicago, University of Minnesota, University of Oregon, University of Washington, and Ohio State University. The crucial point is the adoption of a system or other means which would allow an equal distribution of students throughout the whole calendar year and thereby make full use of existing facilities.

5. Adoption of a uniform calendar for kindergarten through graduate school. Such a calendar could greatly enhance the possibilities of better utilization of physical facilities. It would provide for maximum articulation for students at all levels with a minimum of overlapping.

MODIFICATION OF EXISTING SPACE STANDARDS

In 1954 with the exception of California State Polytechnic, Chico, and Humboldt state colleges, student dormitories were not available to any extent on the state college campuses. However, following a *Restudy* recommendation for a continuous program of residential hall construction in the state colleges, much headway has been made. Currently, however, the health service facilities on the state college campuses are limited to those required for dispensary service only. With the development of on-campus living facilities, it appears that there should be an expansion of health services to include infirmary care for resident students.

At the time of the *Restudy* report, graduate programs in the state colleges were generally limited to teacher education and to its allied fields. Research was considered the exclusive function of the University. Consequently, the recommended standard floor areas for state colleges in the *Restudy* reflect these limitations. Since that study, the state colleges have been authorized to extend their graduate programs and currently grant the master's degree in a variety of subject fields, including the humanities, the biological and the physical sciences. mathematics, social sciences, and occupational fields.

Certainly these changes in the program of the state colleges and the addition of dormitory facilities should be recognized in the development of space standards applied to the building program of this segment.

FINDINGS

1. Neither the *Restudy* standards of utilization now in effect for the University of California or the lower ones subsequently developed by the State Department of Education are, it seems, now being achieved by the University or the state colleges. Highest utilization, however, is achieved in metropolitan centers where classes are scheduled late afternoons and evenings.
2. The Russell and Doi[9] study of 57 institutions maintaining programs leading to the bachelor's or higher degree found that neither room nor student station utilization even in the 10 per cent with highest utilization were as high as the standards recommended in the Strayer and *Restudy* reports.

CONCLUSIONS

1. Because the evidence at hand indicates that neither the *Restudy* standards of utilization now in effect in the University nor those developed somewhat later by the State Department of Education are realizable, more moderate standards should be established.
2. Two of the factors that adversely affect the utilization of instructional facilities are the controls exercised by various departments of instruction over certain classes and certain assigned space and the lack of an articulated school calendar.

RECOMMENDATIONS

It is recommended that:

1. The standard utilization of classrooms in the junior colleges, state colleges, and the University of California be at the maximum practicable levels, but in no case shall [use of classrooms]

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[9] John Dale Russell and James J. Doi, *Manual for Space Utilization in Colleges and Universities*. *Op. cit.*

average less than 30 scheduled hours per week, with class enrollments after the first month of the term averaging 60 per cent of room capacity

2. The standard room utilization of teaching laboratories in the junior colleges, the state colleges, and the University of California be at the maximum practicable levels, but in no case shall [use of laboratories] average less than 20 scheduled hours per week, with class enrollments after the first month of the term averaging 80 per cent of room capacity
3. In determining the need for instructional facilities in the junior colleges, state colleges, and campuses of the University of California, the following factors be taken into account:
    a. The two recommended standards of utilization
    b. The space standards as found in Tables 33, 34, and 36 of *A Restudy of the Needs of California in Higher Education* (with such modifications as changes in the present differentiation of functions among the public segments may justify)
    c. The number of FTE (full-time equivalent) students used in projecting building requirements be limited to those to be instructed in the day program, that is, from 8:00 a.m. to 5:00 p.m.
4. In the scheduling of classes greater use be made of the late afternoon and evening hours and when possible of Saturday, thereby making the achievement of the foregoing utilization standards easier
5. The scheduling of instructional facilities be centrally controlled on each campus with such exceptions as may be approved by the appropriate governing board. (Examples of exceptions are the physical facilities for medicine, law, and other areas where the facilities are designed for highly specialized uses.)
6. The co-ordinating agency (or a continuing committee on plant problems which it might create) undertake without delay the following studies:
    a. A complete study of the current utilization in the junior colleges, state colleges, and the University of California [no such study has been made since 1953-54] for the specific

purpose of making such modification in the above recommended standards of utilization as are justified by the findings

b. The possible economic and educational gains that might be effected by the adoption of an articulated calendar for all segments of public higher education in California

7. Space provisions for health services be increased to allow for infirmary care on state college and University campuses where dormitories are provided
8. Inasmuch as the space standards found in *A Restudy of the Needs of California in Higher Education,* in Tables 33, 34, and 36, were based on the then existing functions of the state colleges and the University, such standards be modified where agreed upon changes in functions require different space allocations
9. In order to provide calendar arrangements that will both fit the public school year and permit fuller use of the state's higher education physical facilities:
   a. Every public higher education institution and private institutions, as able, offer academic programs in the summer months of unit value equivalent to one-quarter of a year, one-half or three-quarters of a semester
   b. State funds be provided for the state colleges and the University of California to offer during the full summer period academic programs on one or more of the patterns indicated in (a) above for regular degree and credential candidates who have met basic admission requirements
   c. The co-ordinating agency (or a continuing committee which it might create) study during 1960 the relative merits of trimester and four-quarter plans for year-round use of the physical plants of both public and private institutions, and on the basis of that study recommend a calendar for higher education in California

NEED FOR ADDITIONAL PUBLIC INSTITUTIONS

Through its projections and analyses, this section is designed to point out the kinds, numbers, and sizes and approximate location of public institutions of higher education that will be needed in California to meet the needs of its qualified students between now and 1975. More specifically, the goals are to show the following:

1. The distribution of present and future high school graduates among the various counties and areas of the state, and the potential enrollments in 1975 resulting therefrom in junior colleges, state colleges, and the University
2. Geographical areas not adequately provided with junior college services
3. Geographical areas where additional state colleges will be needed and the priority of need for such new colleges among the various areas
4. Geographical areas where additional campuses of the University will be needed and the priority of need for such new campuses among the various areas.

ASSUMPTIONS

There are, of course, many variables that cannot be anticipated. Changes may occur in the economic conditions of the state and of the nation and in the international situation; the current patterns of the attraction of students from the various areas of the state by the individual institutions may change; certain institutions of higher education may be unable to accommodate all the students projected for enrollment in them. Since the nature and extent of such changes cannot be foretold at this time, this study assumes that policies and conditions in all such matters will remain essentially as in 1959.

It is further assumed that, while the particular needs of localities should not be overlooked, the general interest of the state is paramount. Therefore, in determining the need for additional junior college facilities, the location of new state colleges and new campuses of the University, the following are most important:

1. The relative numbers of high school graduates, the location of existing institutions in the various areas of the state, and the relation between their capacity and the estimated enrollment in the area served by each such institution
2. The relative numbers of potential students within reasonable commuting distance of each of the proposed sites

3. The need to accommodate numbers of students in excess of the capacities of the physical plants of existing junior colleges, state colleges, and campuses of the University.

MAGNITUDE OF THE PROBLEM

As projected, annual high school graduates, public and private, will increase from 123,807 in 1957-58 to 341,350 in 1974-75, or an increase of 176 per cent.

For more than a half-century, there has been a gradual increase in the proportion of high school graduates who continue their education. Since there seem to be no valid reasons why this trend will be reversed, projected freshman enrollments are expected to increase even more rapidly than the number of high school graduates. The number of full-time freshmen in both public and private institutions is expected to increase from 90,054 in the Fall of 1958 to 254,750 in 1975, or 183 per cent. This means that for every freshman in 1958 there will be nearly three in 1975. As projected, full-time freshman enrollments in the junior colleges, state colleges, and the University will increase from 78,431 in 1958 to 235,550 in 1975, or 200 per cent.

To plan wisely the development of California state colleges and campuses of the University and to make efficient use of public funds, account must be taken of the present and projected geographical distribution of the state's high school graduates. Only by such careful examination can there be assurance that junior colleges, state colleges, and campuses of the University will be so located that, without undue proliferation of institutions, a maximum number of qualified students will be able to attend. This concept is in accord with Principle 5 in *A Study of the Need for Additional Centers of Public Higher Education in California,*[10] which was approved by the two governing boards and is stated in these words: "In order that a possible new institution may serve the greatest number of eligible students, it should be placed near the center of the population served by it."

PRESENT AND FUTURE GEOGRAPHICAL DISTRIBUTION OF PUBLIC HIGH SCHOOL GRADUATES

The analysis developed by the Committee on Institutional Capacities and Area Needs indicates that 73 per cent of all the 1957-58 public high school graduates in the state come from State Economic Areas A (San Francisco-Oakland Metropolitan Area), B (San Jose Metropolitan Area), F (Los Angeles-Long Beach Metropolitan Area), G (San Diego Metropolitan Area), and H (San Bernardino-Riverside-Ontario Metropolitan Area). Moreover, 82 per cent, or 259,000 of all public high school graduates in 1975, according to Department of Finance estimates, will come from these same five State Economic Areas.

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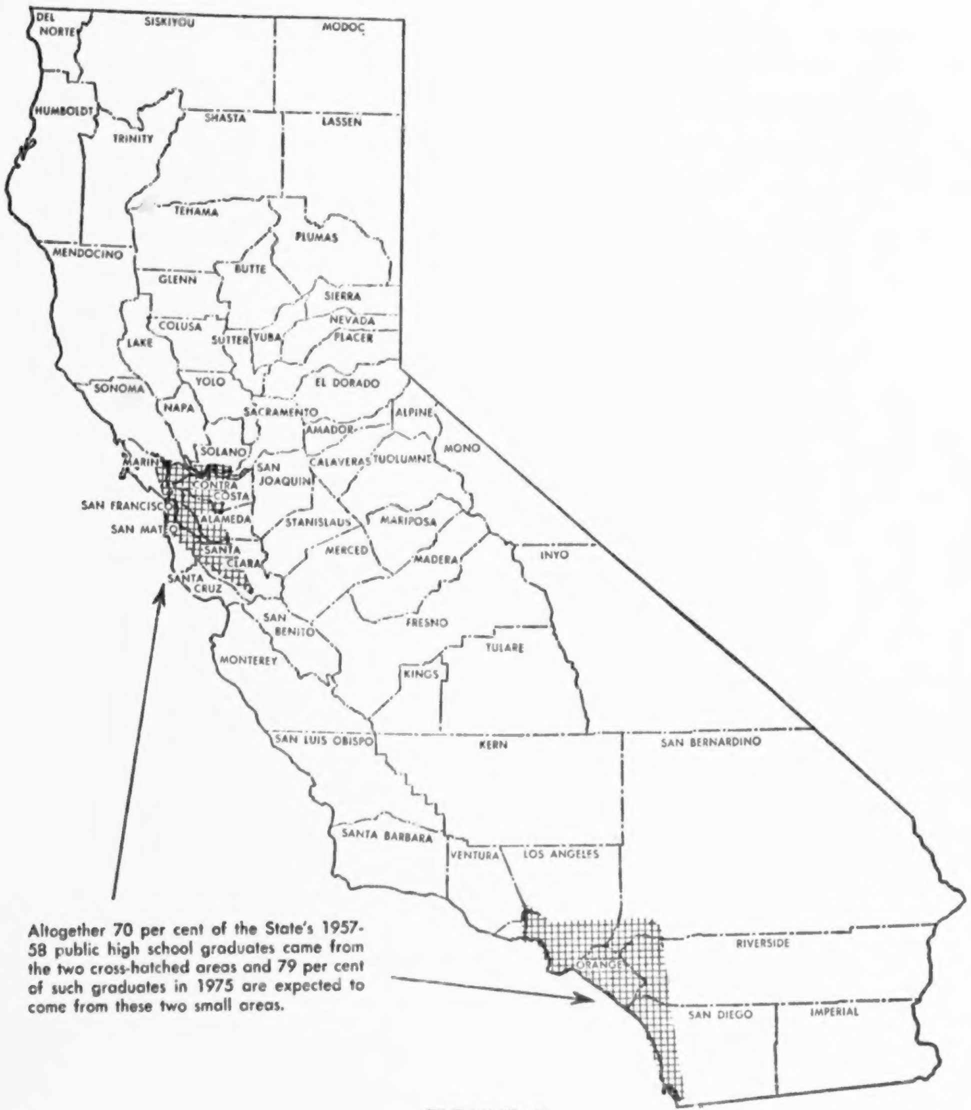
[10] H. H. Semans and T. C. Holy, *A Study of the Need for Additional Centers of Public Higher Education,* Sacramento: California State Department of Education, 1957, p. vi.

Actually, most of these high school graduates come from two geographically small but densely populated regions: (a) a triangle extending from the San Fernando Valley east to Redlands and thence south to San Diego, including portions of Los Angeles, Orange, San Bernardino, Riverside, and San Diego counties; and (b) a slender triangle extending northwest from Gilroy to Marin County and northeast from Gilroy to Pittsburg, including San Francisco and portions of San Mateo, Santa Clara, Alameda, Contra Costa, Solano, and Marin counties (see Figure 5).

The largest projected rate of increase, 435 per cent, in public high school graduates between 1957-58 and 1974-75 will be in Area B (San Jose Metropolitan Area). Following in order are: Area H (San Bernardino-Riverside-Ontario Metropolitan Area), 278 per cent; Area G (San Diego Metropolitan Area), 235 per cent; Area F (Los Angeles-Long Beach Metropolitan Area), 224 per cent; and Area C (Sacramento Metropolitan Area), 197 per cent. (See Figure 6.)

The one area that is estimated to have fewer public high school graduates in 1975 than in 1957-58 is Area 6 (Madera, Kings, and Tulare counties), which, according to projections, will decrease from 2,502 in 1957-58 to 2,300 in 1975, or 8 per cent. In fact, public high school graduates from the entire San Joaquin Valley—San Joaquin County south to and including Kern County—will increase, according to projections, by only 42 per cent during this period, and the Sacramento Valley, excluding only the Sacramento Metropolitan Area, will increase by only 69 per cent. These three areas, then, are expected to increase at a much slower rate than the 177 per cent for the entire state.

In summary, a county-by-county analysis covering the period 1957-58 to 1975 reveals that, with some slight changes in order, the counties having the greatest numbers of public high school graduates in


DEL NORTE
SISKIYOU
MODOC
HUMBOLDT
SHASTA
LASSEN
TRINITY
TEHAMA
PLUMAS
MENDOCINO
BUTTE
GLENN
SIERRA
NEVADA
COLUSA
SUTTER
YUBA
PLACER
LAKE
YOLO
EL DORADO
SONOMA
NAPA
SACRAMENTO
ALPINE
AMADOR
MARIN
SOLANO
MONO
SAN JOAQUIN
CALAVERAS
TUOLUMNE
CONTRA COSTA
SAN FRANCISCO
ALAMEDA
STANISLAUS
MARIPOSA
SAN MATEO
SANTA CLARA
MERCED
MADERA
INYO
SANTA CRUZ
SAN BENITO
FRESNO
TULARE
MONTEREY
KINGS
SAN LUIS OBISPO
KERN
SAN BERNARDINO
SANTA BARBARA
VENTURA
LOS ANGELES
ORANGE
RIVERSIDE
SAN DIEGO
IMPERIAL

Altogether 70 per cent of the State's 1957-58 public high school graduates came from the two cross-hatched areas and 79 per cent of such graduates in 1975 are expected to come from these two small areas.

FIGURE 5
California Regions With Highest Concentrations of Public High School Graduates

1957-58 are those that, according to projections, will still have in 1975 the greatest numbers. It will be recalled from Figure 5 that the two small areas shown there are expected to have an even greater per cent of the total public high school graduates in 1975 than in 1957-58 (70 per cent in 1957-58 and 79 per cent in 1975).

The ten counties expected to have the largest numbers of public high school graduates in 1975, according to projections by the State Department of Finance, together with those numbers, are: Los Angeles, 137,000; San Diego, 22,200; Santa Clara, 21,200; Orange, 16,900; San Bernardino, 14,950; Alameda, 12,900; Sacramento, 11,600; San Mateo, 11,200; Riverside, 7,300; and Contra Costa, 6,250.

These ten counties are expected to have a total of 261,500, or 83 per cent, of the state's 316,050 public high school graduates in

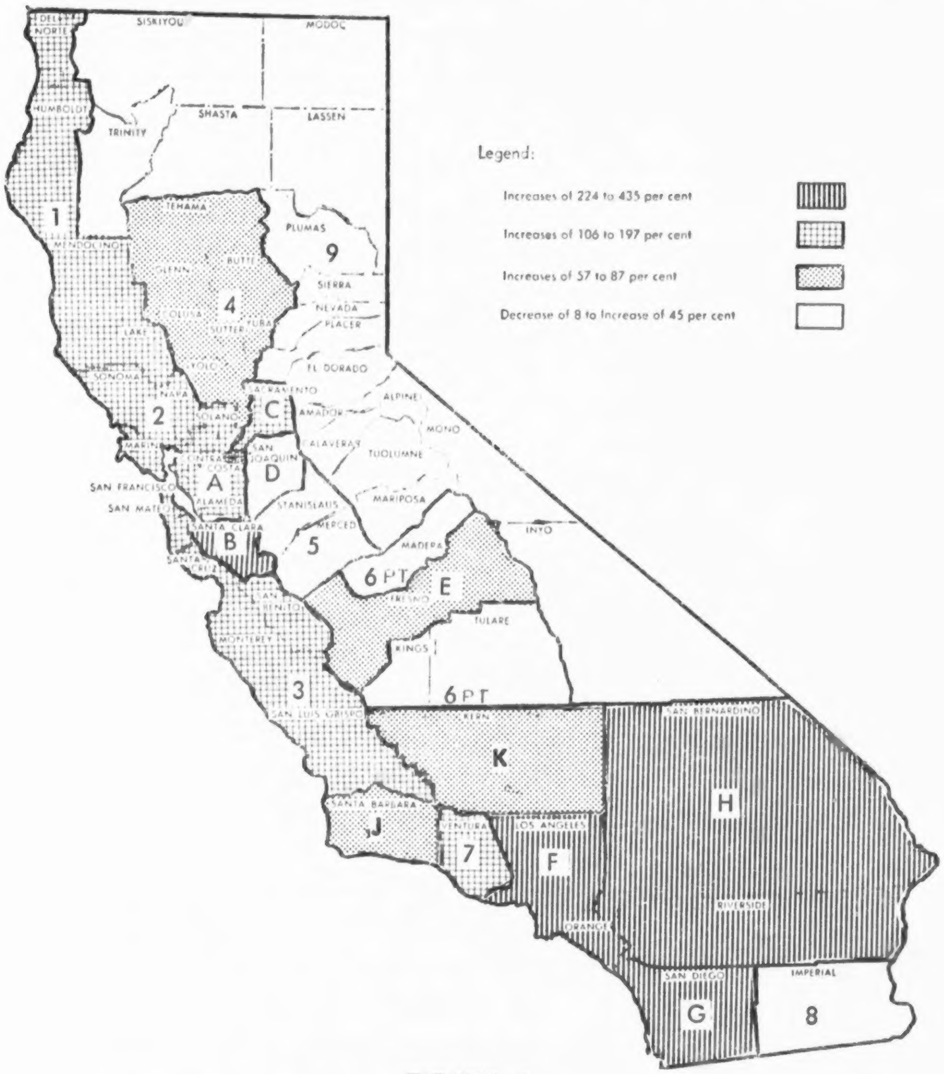

DEL NORTE
SISKIYOU
MODOC
HUMBOLDT
TRINITY
SHASTA
LASSEN
1
TEHAMA
PLUMAS
9
MENDOCINO
GLENN
BUTTE
SIERRA
4
COLUSA
NEVADA
YUBA
SUTTER
PLACER
LAKE
YOLO
EL DORADO
SONOMA
NAPA
SACRAMENTO
ALPINE
2
SOLANO
C
AMADOR
MONO
MARIN
CONTRA COSTA
SAN JOAQUIN
CALAVERAS
TUOLUMNE
SAN FRANCISCO
A
D
SAN MATEO
ALAMEDA
STANISLAUS
MARIPOSA
SANTA CLARA
MERCED
B
5
SANTA CRUZ
MADERA
INYO
6 PT
E
SAN BENITO
FRESNO
MONTEREY
TULARE
KINGS
3
6 PT
SAN LUIS OBISPO
KERN
K
SAN BERNARDINO
H
SANTA BARBARA
J
VENTURA
7
LOS ANGELES
F
RIVERSIDE
ORANGE
SAN DIEGO
IMPERIAL
G
8
Legend:
Increases of 224 to 435 per cent
Increases of 106 to 197 per cent
Increases of 57 to 87 per cent
Decrease of 8 to increase of 45 per cent

FIGURE 6
Rates of Increase in High School Graduates Projected Between 1958 and 1975 Among California State Economic Areas

1974-75. On the other hand, the ten counties expected to have the largest rates of increase in high school graduates between 1957 and 1975 are, in order, Santa Clara, Orange, San Bernardino, San Mateo, Marin, Riverside, San Diego, Los Angeles, Sacramento, and Monterey.

THE RELATIVE NEED FOR ADDITIONAL JUNIOR COLLEGE FACILITIES

Adequately planned higher education in California must take into account the need for adequate junior college facilities, for in the balanced tripartite system upon which continued excellence in the higher education of this state depends, the junior colleges have a paramount and indispensable role. However, for several reasons, it is difficult to determine the priority of need for junior colleges in a community by a review of the State Economic Areas. Chief of these is the local character of the junior college, in terms of both control and service. Because of the relatively small geographic area of service by a junior college, analysis of a given area which may include several counties is misleading, for even when available data for an area as a whole appear generally favorable, certain communities within it may still be outside the range of effective service of any junior college.

Another difficulty in attempting to establish priorities for junior colleges is that there are at least three different kinds of "need": first, need in terms of adequate opportunity for local students; second, need for facilities to alleviate overcrowded state colleges and University campuses; and third, need to accomplish the State Board of Education's objective of including every high school district of the state in a junior college district. Each of these calls for a different kind of analysis.

One way to measure the relative adequacy of junior college services in each of the several State Economic Areas is to relate junior college enrollment to the number of students graduated annually by the high schools in the area. The data indicate several areas in which the ratios of junior college enrollments to public high school graduates are considerably below the average for the entire state and which, therefore, appear inadequately served by junior colleges.

The two State Economic Areas with the lowest 1958 ratios between these two factors are Area 1 (North Coastal Area), with no junior college enrollments, and Area 4 (Sacramento Valley Area), with 32 junior college enrollments per 100 public high school graduates. Additional junior college facilities are certainly needed in each of these areas. The other areas revealed as relatively deficient in junior college opportunities are, in order of apparent need, Area 8 (Imperial County), Area G (San Diego County), Area 9 (the Sierra Area, 17 counties), and State Economic Area B (Santa Clara County).

Since nearly all the areas listed above contain well-developed state college or University of California facilities, or both, it may be inferred that one of the major reasons for the deficiency of junior college opportunities has been overreliance on state-provided facilities. Analysis of the relationship between the projected lower division enrollments for 1975 and the capacity of junior college facilities after all funded construction is completed confirms this inference.

For the state as a whole the current full-time capacity of 170,020 for the junior colleges after all funded construction is completed is only 40.6 per cent of the 1975 projected lower division enrollment of 418,250. Even without a diversion of students from the state colleges and the University to the junior colleges, additional junior college facilities must be provided for 76,330 students by 1975. (See Table 16.) Assuming that an additional 50,000 students will be diverted to the junior colleges, additional capacity would have to be provided for 126,330 junior college students. If these students were all cared for by establishing new junior colleges (each with the recommended optimum enrollment of 3,500), 36 new junior colleges would have to be created by 1975.

The very low ratios of junior college capacity to projected lower division enrollment in some of the State Economic Areas indicate insufficient effort to provide locally financed facilities for the lower division needs in these areas. Furthermore, the fact that these areas in practically all cases have local state college or University facilities or both makes it apparent that the state is being called upon to provide educational opportunity for lower division students which other parts of the state are supporting mostly by local taxes. The areas which demonstrate the greatest need for more junior colleges on the basis of this comparison of junior college capacity and projected lower division enrollments are Area 1 (North Coastal Area), Area 4 (Sacramento Valley Area), Area B (San Jose Metropolitan

Area), and Area G (San Diego Metropolitan Area). These, it should be noted, are areas which also showed great need for additional facilities on the basis of inadequate opportunity as measured by the ratio of junior college enrollments to public high school graduates.

A recent study by the Bureau of Junior College Education of the California State Department of Education appraised the need for additional junior colleges from a different point of view,[11] and reviewed the current situation and future needs county by county. The study takes two needs into consideration although these are not completely differentiated: one is the necessity to expand the boundaries of existing districts in order to include as much territory and tax base as possible in a junior college district; and the second is the necessity to expand facilities in order to serve adequately the needs of the student potential. Taking both of these considerations into account, the authors of that report listed 22 areas in which actual expansion of facilities for potential junior colleges is warranted.

POSSIBLE NEW STATE COLLEGES

Of the four new state colleges authorized by the 1957 Legislature, two have not been established—one in Stanislaus County and the other in the North Bay counties. (Sites for these were selected by the State Public Works Board in December, 1959, and March, 1960, respectively.) These colleges should be constructed without delay. (At the joint meeting of The Regents and the State Board of Education on April 15, 1959, approval was given to this statement: "The new campuses already approved for the state colleges and the University of California should be placed in operation as soon as the fiscal condition of the State will permit.")

The *status quo* enrollment projections and other data indicate a need for the establishment of two additional state colleges in the immediate future. These colleges should be located in Area F (the Los Angeles-Orange Metropolitan Area) and Area H (the San Bernardino-Riverside-Ontario Metropolitan Area).

A total of 97,100 full-time enrollees is projected for the state colleges in Los Angeles and Orange counties for 1975. Divided evenly among the five existing colleges in the two-county area, the enrollments for each would approach 20,000. In addition, each would undoubtedly enroll approximately 22,000 part-time students. Such enrollments would certainly overtax the site capacities of some of these institutions. The problem is further increased by the fact that the projected enrollments would not be equally distributed. The 1975 student load would fall most heavily upon Los Angeles State College with 28,550 full-time students, Long Beach State College with 24,850 full-time students, and San Fernando Valley State College with 18,100 students.

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[11] "The Public Junior College System: The Current Situation and Future Needs." Prepared by the Bureau of Junior College Education and the Bureau of School District Organization. Sacramento: California State Department of Education, November 16, 1959.

In order to relieve the overload on these existing colleges, a new state college is needed in the area served by the three colleges. Analysis of the projected public high school graduates in this area and of the commuting practices of students indicates that the new college should be located in the vicinity of the Los Angeles International Airport. This college, together with the reduction of lower division enrollments in the state colleges, will obviate the need for the establishment of any further colleges in this area at least before 1965.

The establishment of a new state college in the San Bernardino-Riverside area is justified because of the large potential enrollment in the two counties, and because the counties are not within reasonable commuting range of any existing state college. This recommended college has an enrollment potential of approximately 12,800 full-time students by 1975.

Several other areas, which might have a sufficient potential by 1975 to warrant establishment of additional state colleges, do not indicate the need for action now. These areas should be reviewed in 1965 and again in 1970 to determine the actual needs at those times. The areas are listed in Recommendation 5 at the end of this chapter.

THE NEED FOR NEW CAMPUSES OF THE UNIVERSITY

This study indicates that the construction of the three new campuses of the University of California authorized by The Regents in 1957 in (a) the San Diego-La Jolla Area, (b) the Southeast Los Angeles-Orange County Area, and (c) the South Central Coastal Section (Santa Clara-San Mateo-Santa Cruz-San Benito-Monterey counties) should be started not later than 1962 in order to provide for estimated enrollments in the areas they will serve.

The Berkeley Campus of the University of California. The *status quo* University enrollment projections for the Berkeley campus of the University in 1975 is 43,950 full-time students. Therefore, if the proposed maximum enrollment of 27,500 is to be maintained, approximately 16,000 potential students for the Berkeley campus need to be accommodated elsewhere by 1975. Some relief should come from the diversion of lower division students to the junior colleges, proposed in Chapter I of this report. A partial solution might be for the Davis campus to be developed to accommodate an enrollment of about 15,000. Undoubtedly, a portion of the 16,000 students will be accommodated by the new campus of the University of California in Area B (San Jose Metropolitan Area). An additional aid in caring for them would be the establishment of branch installations in specialized fields of study, such as instruction in science at Livermore. (These would be similar to the off-campus centers for teacher education now operated by certain of the state colleges.)

Los Angeles-Long Beach Metropolitan Area. The projected University of California enrollment for the Los Angeles-Long Beach Metropolitan Area in 1975 is 52,550 students. Of these 35,600 are projected for the Los Angeles campus and 16,950 for the proposed Southeast Los Angeles-Orange County campus. To keep the Los Angeles campus enrollment at 27,500 requires diverting some 8,000 of these potential students to other campuses. The Southeast Los Angeles-Orange County campus, the La Jolla campus, the Riverside campus, and the Santa Barbara campus can probably accommodate a large portion of this excess.

Because of rapidly changing conditions in the state, it is important that, in the case of the University as well as for the state colleges, studies be made in 1965, and again in 1970, of the need for additional university facilities in the San Joaquin Valley and the Los Angeles area and in other parts of the state. These studies should give special consideration to the following:

1. The extent to which the difference between the 1975 projected University enrollment for the area and the maximum capacity at Los Angeles can be cared for by the new Southeast Los Angeles-Orange County campus
2. The extent to which some of these potential students may be diverted to the campuses at La Jolla, Riverside, and Santa Barbara

3. The establishment of branch installations in specialized fields of study from existing campuses in this area similar to those mentioned in connection with the Berkeley campus

FINDINGS

1. Graduates from California high schools, public and private, will increase from 123,807 in 1957-58 to 341,350 in 1974-75, or 176 per cent; graduates from public high schools only will increase during the same period from 114,107 to 316,050, or 177 per cent.
2. If nothing is done to modify projected rates of growth, between 1958 and 1975 full-time freshman enrollments in the junior colleges will increase by 135 per cent, in the state colleges by 330 per cent, in the University by 227 per cent, and in the independent colleges and universities by 65 per cent.
3. Between 1958 and 1975 graduate enrollments in the state colleges will increase by 346 per cent, in the University by 207 per cent, and in the independent colleges and universities by 72 per cent.
4. Again between 1958 and 1975 enrollments are expected to increase somewhat more rapidly in the lower division than in the upper and graduate divisions in both the state colleges and the University. (This is based on the *status quo* projections and does not take into account the plan to divert lower division students from the state colleges and the University as recommended elsewhere in this report.)
5. Altogether 73 per cent of all the 1957-58 public high school graduates of the state came from five State Economic Areas with population concentrated in: (a) a triangle extending from the San Fernando Valley east to Redlands and thence south to San Diego; and (b) a slender triangle extending from Gilroy northwest to Marin County and (again from Gilroy) north to Pittsburg. Furthermore, in 1975, 82 per cent of all public high school graduates in the state will come from the same five State Economic Areas.
6. The ten counties expected to have the largest numbers of public high school graduates in 1975 are: Los Angeles, 137,000; San

Diego, 22,200; Santa Clara, 21,200; Orange, 16,900; San Bernardino, 14,950; Alameda, 12,900; Sacramento, 11,600; San Mateo, 11,200; Riverside, 7,300; and Contra Costa, 6,250.

7. The ten counties with the largest projected rates of increase in public high school graduates between 1957-58 and 1975 are in order: Santa Clara, 435 per cent; Orange, 349 per cent; San Bernardino, 289 per cent; San Mateo, 277 per cent; Marin, 274 per cent; Riverside, 258 per cent; San Diego, 235 per cent; Los Angeles, 214 per cent; Sacramento, 197 per cent; and Monterey, 197 per cent.
8. The two State Economic Areas with the lowest current (1958) ratios of junior college enrollments to public high school graduates are Areas 1 and 4 (See Chapter IV for description of these areas). In these areas, Humboldt State College and Chico State College perform limited junior college functions at state expense.
9. Even without any planned diversion of lower division students from the state colleges and the University to the junior colleges, additional junior college facilities will be needed for 76,330 students by 1975.
10. Analyses [used in the report] indicate that the greatest need for additional junior college facilities exists in areas containing state colleges and University campuses.
11. To provide junior college services to areas not now adequately served requires the establishing of at least 22 new junior colleges in various areas of the state between now and 1975.
12. *Status quo* full-time state college enrollments in 1975 will range widely from college to college—from 2,350 in Stanislaus and 2,500 in the North Bay counties, to 20,150 in San Diego, 24,850 in Long Beach, 24,900 in San Jose, and 28,550 in Los Angeles State.
13. A total of 97,100 full-time enrollments in the state colleges of Area F (Los Angeles-Orange Counties) is projected for 1975. Divided evenly among the existing five colleges (including one, currently a small, specialized agricultural and technical institution, i.e., San Dimas Branch of California State Polytechnic

College), the enrollments at each would approach 20,000 full-time students.

14. By 1965 the full-time enrollment at Berkeley will have greatly exceeded and that at the Los Angeles campus will have approximately equalled the recommended maximum full-time enrollment of 27,500.

RECOMMENDATIONS

It is recommended that:

1. With respect to the establishment of new state colleges and campuses of the University, the governing boards reaffirm their action taken in joint session on April 15, 1959, to the effect that "no new State Colleges or campuses of the University, other than those already approved, shall be established until adequate Junior College facilities have been provided, the determination of adequacy to be based on studies made under the direction of the Liaison Committee of the State Board of Education and The Regents of the University of California . . ." with the further provision that the new state colleges and campuses of the University established by action of the Legislature in 1957, and by action of The Regents, also in 1957, be limited to upper division and graduate work until such time as adequate junior college opportunities are provided for the primary area served by these institutions.
2. The following full-time enrollment ranges be observed for existing institutions, for those authorized but not yet established, and for those later established.

Type of institution	*Minimum*[1]	*Optimum*	*Maximum*
Junior colleges	400	3,500	6,000*
State colleges:			
In densely populated areas			
In metropolitan centers	5,000	10,000	20,000
Outside metropolitan centers	3,000	8,000	12,000
University of California campuses[2]	5,000	12,500	27,500

3. The state give encouragement to making junior college facilities available for the school districts not now adequately served

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[1] These are to be attained within seven to ten years after students are first admitted.

[2] The minimum figure for the University assumes graduate work in basic disciplines and one or more professional schools.

* This maximum might be exceeded in densely populated areas in metropolitan centers.

either through the establishment of new junior colleges or by making them a part of districts now served by junior colleges.

Evidence at hand indicates there is need for new junior colleges in the following school districts:

School districts to be included [1]	*County*	*1975 Full-time enrollment* [2]
San Diego City Unif. (additional campuses)	San Diego	6,500
Los Angeles J.C (additional campus)	Los Angeles	6,000
Alhambra H.S., El Monte U.H.S., and Montebello Unif.	Los Angeles	5,000
Hayward U.H.S., Washington U.H.S., and San Leandro Unif.	Alameda	5,000
Whittier U.H.S.	Los Angeles	5,000
Sequoia U.H.S. and Pescadero U.H.S.	San Mateo	3,000
Anaheim U.H.S.	Orange	2,500
Campbell U.H.S., Live Oak U.H.S., and Santa Clara U.H.S.	Santa Clara	2,500
San Mateo J.C. (additional campuses)	San Mateo	2,500
Oxnard U.H.S. Moorpark Memorial U.H.S., Santa Paula U.H.S., Fillmore U.H.S., and Simi Valley Unif.	Ventura	2,500
Sweetwater U.H.S. and Coronado Unif.	San Diego	2,500
Grossmont U.H.S. and Mountain Empire Unif.	San Diego	2,250
Contra Costa J.C. (additional campuses Antioch and Moraga)	Contra Costa	2,250
Foothill J.C. (additional campus)	Santa Clara	2,000
Albany City Unif., Berkeley City Unif., and Emeryville Unif.	Alameda	1,500
All unified and high school districts in Merced and Madera counties	Merced-Madera	1,500
Burbank Unif.	Los Angeles	1,250
San Luis Obispo (county unit)	San Luis Obispo	1,000
Unified and high school districts in East Kern and Inyo counties	East-Kern-Inyo	950
Victor Valley U.H.S.	San Bernardino	550
Barstow J.C.	San Bernardino	400
Total—22 colleges		56,650

[1] Abbreviations: H.S.—high school, U.H.S.—union high school, Unif.—unified, J.C.—junior college.

[2] 1975 enrollments have been substituted for the 1970 enrollments which appeared in the original list approved by the Joint Boards. The arrangement of this list in descending order of enrollment is not intended to indicate urgency of need in the same order.

4. New state colleges, in addition to those already authorized, be established and in operation *by 1965* in the following areas and in descending order of estimated enrollment potential:

Approximate Location	*Estimated 1975 Full-time Enrollment Potential*
In the vicinity of the Los Angeles International Airport	19,900
In the San Bernardino-Riverside vicinity (vicinity of Rialto)	12,800

3

Although it is believed that these two institutions should be master planned for an ultimate capacity of 20,000, the Survey Team recommends that the 1975 enrollment be held to 10,000 and 8,000, respectively.

5. In 1965 and again in 1970, if applicable, and before considering the need for new state colleges in any other areas of the state, careful studies be made by the co-ordinating agency of the following State Economic Areas to determine the actual need for new state colleges that exists at the time each study is made.

State Economic Area	
F	Los Angeles-Long Beach Metropolitan Area, Griffith Park-Glendale vicinity
A	San Francisco-Oakland Metropolitan Area, vicinity of Redwood City
A	San Francisco-Oakland Metropolitan Area, Contra Costa County
K	Bakersfield Metropolitan Area, Kern County
7	South Coastal Area, Ventura County

6. The three new campuses approved by The Regents in 1957—(a) San Diego-La Jolla Area, (b) Southeast Los Angeles-Orange County Area, and (c) the South Central Coastal Area (Santa Clara, San Mateo, Santa Cruz, San Benito, and Monterey Counties)—be completed without delay and in any event construction to be started not later than 1962.

   It is further recommended that the campus in each of the following locations be planned for 1975 enrollments as follows:

San Diego-La Jolla	7,500
Southeast Los Angeles-Orange County	12,500
South Central Coast	10,000

7. Inasmuch as the estimated enrollment potential of the Berkeley campus of the University is 43,950 for 1975 (as compared with a maximum enrollment of 27,500 as recommended in 2 above for a University campus), the co-ordinating agency undertake appropriate studies of how best to accommodate the difference between these figures (approximately 16,000), such steps to include careful study of these possibilities:

   a. Diversion of some of these potential students particularly to the Davis campus and the new South Central Coast campus

b. The accommodation of the remaining part of the difference (i.e., 16,000 less the impact of (a) above through the establishment of branch installations from existing campuses in specialized fields of study such as instruction in science at Livermore. (These would be similar to the off-campus centers for teacher education now operated by certain of the state colleges.)

8. In 1965 and again where applicable in 1970, and before considering the need for new University facilities in any other areas of the state, careful studies be made by the co-ordinating agency of the need for additional University facilities in the San Joaquin Valley and the Los Angeles area. In the latter area special consideration should be given as to how the difference between the 1975 estimates of potential University enrollment of 52,550 and the 27,500 maximum for the University of California, Los Angeles campus (some 25,000 students) can best be accommodated. Such consideration should include the following:
   a. To what extent will this difference be cared for by the new Southeast Los Angeles-Orange County campus, and to what extent could these potential students be diverted to the La Jolla, Riverside, and Santa Barbara campuses?
   b. Will there be a need for the establishment of branch installations in specialized fields of study from existing campuses in this area similar to that included in Recommendation 7b?

9. Because the University, among the publicly supported institutions in California, has the sole responsibility for the preparation for professions such as architecture, dentistry, law, librarianship (graduate), medicine, optometry, pharmacy, public health, and veterinary medicine, periodic studies be made of the relation of supply to demand, particularly in fields where there seem likely to be shortages, such as medicine and pharmacy, for the purpose of determining what steps the University should take to meet its responsibilities in these professional fields.

CHAPTER VII

FACULTY DEMAND AND SUPPLY

The availability of faculty is a necessary consideration to assessing the capacity of present or future institutions to offer educational programs. Buildings and equipment are essential, but without teachers they are useless.

Fortunately, the Joint Staff of the Liaison Committee undertook a study of faculty demand and supply, which was published in 1958.[1] Recommendation 6 on page 75 of that study, which was approved by both the State Board of Education and The Regents states in part:

> Inasmuch as more complete and adequate data may change the estimates of staff needs and better disclose the sources from which these needs will be met, the results of this study be re-examined in 1960, such re-examination to pay particular attention to the output of doctor's degree holders by California institutions in relation to the needs of the State. . . .

BACKGROUND, SCOPE, AND METHODS

The staff assigned to the present study of faculty demand and supply has used the earlier study as a base, has updated the essential data with regard to more recent projections of enrollment, and has introduced other data not available in 1957 and 1958.

DELIMITATION OF THE STUDY

This is a *status quo* study. Its predictions are based upon conditions and policies in the various segments of public higher education and present trends of supply in effect in 1958 and 1959. Furthermore, it is limited to post-high school educational institutions including junior colleges, state colleges, the University of California, and independent colleges and universities.

BASIC QUESTIONS

The basic questions that will be considered in the study are similar to those raised in the earlier study. As adapted from that study, they are as follows:

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[1] Joint Staff for the Liaison Committee, *A Study of Faculty Demand and Supply in California Higher Education, 1957-70.* Berkeley: University of California Press, 1958.

1. How many new staff members are estimated to be needed by 1975 by the junior colleges, state colleges, the University, and independent colleges and universities in the state?
2. What are the characteristics of faculty at the time of first appointment with respect to the highest degree held, the occupation from which recruited, and the institutions from which the doctorate was received?
3. What is the probable supply that can be expected to be available nationally and from California institutions?
4. Which subject-matter fields have oversupply, balance, or undersupply as of the present time?
5. What are the possibilities of meeting the demands up to 1975 from the probable available supply?

ASSUMPTIONS

The results of such a study as this are only as valid as the assumptions upon which the study is based. Projecting many variable factors up to 1975 requires the acceptance of many assumptions; more will be said about these later in this report. However, the more general ones are presented here:

1. Higher education enrollment predictions for California will be accurate and dependable.
2. General educational policies will remain stable.
3. Facilities will be available as needed.
4. Ratios of staff to students will remain as in 1958.
5. Staff replacement for separations—resignations, retirement, death, and other causes—will be about as in the past (4.5 per cent for the junior colleges, 6.0 per cent for the state colleges, 4.2 per cent for the University and 6.0 per cent for independent colleges).
6. Production of graduate degrees will continue in conformity with presently reported institutional plans.
7. The same per cent of the holders of California-produced graduate degrees will enter college teaching in California.

8. The proportion of faculty available from a deferred supply (those who enter teaching from other kinds of employment) will remain constant.
9. Approximately the same per cent of holders of master's and doctoral degrees will be appointed to the faculty posts of the various segments of higher education as has been the case in recent years.

In the case of certain of the foregoing assumptions, particularly 7 and 8, the Survey Team is convinced (and later makes recommendations regarding them) that these will not materialize unless salaries and fringe benefits for staff members in public institutions of higher education in California are substantially increased. Persons recruiting faculty from institutions outside California since 1957 have found that salaries have been increasing more rapidly in those institutions than in California. Furthermore, the wide differences between the salaries in educational institutions and those in industry, from which the "deferred supply" comes in part, are well known.

Another concern particularly of the state colleges is with the assumption that "the same per cent of holders of master's and doctoral degrees will be appointed to the faculty posts of the various segments of higher education as has been the case in recent years." The facts are these: the per cent of doctorates among new full-time state college faculty appointees for the years 1954-58 averaged 40.2 per cent as compared with 70.0 per cent of such full-time regular appointees during that same period in the University. However, it should be noted the per cent of the new regular full-time appointees to the state colleges with the doctorate declined from 45.9 per cent in 1950 to 37.3 per cent in 1958. For the same period this decline in the University was 3.0 per cent. Although during this same period, the proportion of the total regular full-time state college staff with the doctorate increased somewhat, this merely reflected the necessity faced by the state colleges of hiring people without the doctorate, with the hope, sometimes realized and sometimes not, that they would achieve it after joining the faculty. It seems clear, however, that the state colleges with the largest proportion of doctorates on their staffs (Long Beach, 68.3 per cent; San Diego, 65.8 per cent; Sacramento, 64.9 per cent; and San Fernando, 62.0 per cent) cannot long continue to maintain those proportions if the present ratio of doctorates to nondoctorates among newly recruited faculty is not sharply increased.

As is pointed out in other sections of this report, the similarities in curricula between the University and the state colleges are just as important as their differences and, except for full-time research personnel employed by the University, the liberal arts faculties of the University and state colleges are similar in recruitment sources.

Whatever the data studies indicate, one must keep in mind that the shortage of college teachers is one of the most critical shortages facing the United States today, and California, because of its rapid population growth, must have a recruitment climate which will not only compare favorably with that of other states, but will take into account the fact that California must recruit in excess of 50,000 new faculty members for its colleges and universities in the next 17 years. Moreover, the question here involves more than mere numbers; it is difficult to think of any profession in which the problem of quality maintenance is as important as it is in the college teaching profession.

SOURCES OF DATA

The basic data used in this study came from the following sources:

1. Faculty characteristics material for the years prior to 1957-58 from *Faculty Demand and Supply in California Higher Education, 1957-1970.*
2. Characteristics of newly appointed faculty for the various segments of higher education in California (especially the junior colleges and independent colleges) and the per cent of holders of California-produced doctorates entering college teaching from material collected for the National Education Association study, *Teacher Supply and Demand in Universities, Colleges, and Junior Colleges, 1957-58 and 1958-59.* (National Education Association Research Report 1959-R-10.)
3. Number and distribution of graduate degrees awarded in California, by field and institution from *Earned Degrees Conferred by Higher Educational Institutions, 1956-57,* and *Earned Degrees Conferred by Higher Educational Institutions, 1957-58.* (U.S. Office of Education Circulars 527 and 570)

4. Characteristics of newly appointed faculty for the state colleges and the University from the records of the Personnel Office of the State Department of Education and the bio-bibliographical records of the University of California, respectively
5. Data regarding opinions on the relationship of demand and supply for various subject-matter fields from an opinionnaire sent to placement officers who are members of the National Institutional Teacher Placement Association and are in institutions preparing graduates for college teaching
6. Information regarding expansion of junior college credential programs from the directors of teacher education of California colleges and universities
7. Data pertaining to the number of graduate degree holders placed in college teaching within and without the state from the placement officers of California colleges and universities granting master's and doctoral degrees
8. Projections of the number of doctoral degrees to be awarded by California institutions by field from 1959 to 1975 from a questionnaire sent to the heads of departments of the colleges and universities in California granting such graduate degrees
9. Enrollment estimates for all segments of higher education as developed by the State Department of Finance

ESTIMATES OF DEMAND FOR NEW FACULTY MEMBERS

The first step in the development of this analysis of the relationship between the need for faculty in higher education and the probable supply for 1959-1975 was obviously the determination of demand for such faculty. How that determination was made is explained below.

PROCEDURE

The faculty demand by subject area and segment of higher education for the period 1959-1975 was derived in the following manner:

1. The present full-time enrollment (students carrying 12 or more units) in each segment was divided by the number of full-time faculty members (those employed for more than 51 per cent of their time) to establish the current faculty-student ratios. (Full-

time students and faculty have been used throughout this study rather than full-time equivalents because of availability of data and comparability with probable supply of staff as later estimated.)

2. These ratios were then applied to the projections of full-time enrollment for each year to 1975 to determine the total staff needs for each segment. The number of new staff needed each year to meet the increased enrollment was then obtained by subtracting the total staff projected for each year from that projected for each subsequent year.
3. The total faculty needed for each year was then obtained by adding to the figures indicated in item 2 the number of new faculty needed to replace losses from retirement, death, resignation, and other causes within the total faculty of each prior year.

ESTIMATED FACULTY DEMAND

Enrollment estimates were developed for 1960, 1965, 1970, and 1975 by the State Department of Finance. The figures for the intervening years were interpolated by using straight-line projections.

Part *A* of Table 17 gives the actual and projected full-time enrollments and the total regularly appointed full-time faculty needed for the various segments of higher education at various periods for the years, 1958-75. Part *B* sets forth the number of new faculty needed during each of these periods to maintain existing student-faculty ratios and to replace the losses due to attrition during the period.

Table 17 shows that in 1975 a total full-time faculty of 44,392 will be required to meet the instructional load of a projected enrollment of 661,350 full-time students in California's public and private institutions of higher education. Between 1959 and 1975 a total of 54,424 new full-time faculty members must be trained and recruited to meet this estimated demand. Regardless of changes that may occur in the student-faculty ratios, in the replacement percentages, in the enrollment projections, or in the distribution of staff among various subject fields, appreciable change in the magnitude of the numbers given in Table 17 does not seem likely.

However, since this is a *status quo* study, the enrollment projections used to estimate the probable demand for staff do not take into

TABLE 17

Total Full-time Faculty Required for Projected Full-time Status Quo Enrollments, and New Faculty Needed for Replacement and Enrollment Growth, by Segments, and by Intervals, 1959-1975

Year (Fall)	Category	Junior colleges	State colleges	University of California	Independent colleges and universities	Totals
Part A. Total Full-time Faculty Required at Selected Years						
1958	Full-time faculty	4,637	3,282	3,540	3,658	15,117
	Full-time enrollment	91,162	44,679	43,101	46,824	225,766
1960	Full-time faculty	5,876	4,309	4,131	4,051	18,367
	Full-time enrollment	115,750	58,600	50,400	51,850	276,600
1965	Full-time faculty	8,254	7,717	6,311	4,730	27,012
	Full-time enrollment	162,600	104,950	77,000	60,550	405,100
1970	Full-time faculty	10,416	11,555	8,693	5,344	36,008
	Full-time enrollment	205,200	157,150	106,050	68,400	536,800
1975	Full-time faculty	12,761	14,706	11,148	5,777	44,392
	Full-time enrollment	251,400	200,000	136,000	73,950	661,350
Part B. New Full-time Faculty Needed to Meet Part A Requirements						
1959-60	New faculty needed	1,685	1,452	898	843	4,878
	Average per year	842	726	449	422	2,439
1961-65	New faculty needed	3,913	5,108	3,231	1,975	14,227
	Average per year	783	1,022	646	395	2,845
1966-70	New faculty needed	4,213	6,613	3,907	2,106	16,839
	Average per year	843	1,323	781	421	3,368
1971-75	New faculty needed	4,900	6,995	4,497	2,088	18,480
	Average per year	980	1,399	899	418	3,696
1959-75	Total new faculty	14,711	20,168	12,533	7,012	54,424
	Average per year	865	1,186	737	412	3,201
Part C. Student-Faculty Ratios and Replacement Percentages Used						
	Student-Faculty ratios	19.7	13.6	12.2	12.8	----
	Replacement per cent	4.5	6.0	4.2	6.0	----

account the establishment of any colleges or universities other than those currently in operation or already authorized. Since the opening of a new college taps a new potential supply of students, the activating of new junior colleges by local action, the approval of additional new state colleges and campuses of the University, or the establishment of new independent colleges will increase the demand for faculty.

Obviously, therefore, administrators, board members, legislators, and all others concerned with the future of California's institutions of higher education—and the students they serve—have a formidable task in obtaining qualified faculty members to meet the dimensions of the demand situation presented in this report.

CERTAIN CHARACTERISTICS OF FACULTY APPOINTEES IN HIGHER EDUCATION

To relate faculty demand and supply for California institutions, information is needed on the characteristics of new staff members appointed to fill the vacancies in the various segments of higher education. This information falls into two categories: the first discovers the sources of supply from which these appointees have come, and the second gives the type of preparation that has been required in recent years. Wherever possible, information on new appointees has been collected for the years 1954-1958. The characteristics that directly affect the computation of net demand and actual supply will be presented and briefly discussed here.

ORIGIN OF APPOINTEES BY PLACE OF TRAINING

The previous study of faculty demand and supply used the place of residence at time of appointment in determining the proportions of new staff obtained in-state and out-of-state respectively.[2]

During the preparation of this study, however, the fact became apparent that the geographical location of the institutions from which the highest degrees of the appointees were obtained was a more pertinent factor in the problem at hand than the one used in the earlier study. Location data, which were available for the years 1957-58 and 1958-59 only, showed that 52.6 per cent of the new full-time staff of the state colleges appointed in those years received their degrees from institutions outside of California and that 76.2 per cent of the full-time appointees of the University came from this category. The equivalent proportion of the new staff of the junior colleges for these two years is 52.5 per cent.

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[2] Joint Staff for the Liaison Committee, *A Study of Faculty Demand and Supply in California Higher Education, 1957-70*, *op. cit.*, Tables 11 and 16, pp. 28 and 32.

OCCUPATIONAL SOURCE OF APPOINTEES

As might be expected, the great majority (over 80 per cent) of the appointees to the faculties of the junior colleges, the state colleges, and the University came from teaching, research, and direct from graduate schools. The relative contribution of these three sources in each of the three segments for the five-year period, 1954-58, varies considerably, however, with teaching accounting for 70 per cent of the junior colleges, 63 per cent of the state colleges, and only 37 per cent of the University totals. In all three segments, a considerable proportion of the new faculty came from sources that constitute a "deferred supply," that is, fields other than college teaching. In the junior colleges this proportion is exceptionally large because of the dependence upon high school and elementary teachers as a source of supply.

TYPE OF PREPARATION

The kinds of degrees held at time of appointment give needed information about the approximate demand for graduates with the doctoral, master, and other degrees. During the period 1954-58, for the state colleges the average per cent of new full-time appointees holding the doctorate was 40.2; for the University the figure was 70 per cent. The figure for the University varied only 3 per cent during this same period, with the high in 1955 and the low in 1956. The state colleges have shown a greater variation, with a high of 45.9 per cent in 1955 and a steady decrease to a low of 37.2 per cent in 1958.

Completely comparable data for the junior colleges were not available. However, number and per cent by level of preparation of that segment's new staff appointed in 1957-58 and 1958-59 were obtained. As would be expected, a much lower proportion (9.2 per cent) of the junior college faculty held the doctorate at the time of appointment than did the faculty of any other segment.[3] This per cent, however, is much above the comparable national figure for junior colleges (7.4

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[3] For the year 1959-60 the per cent of new academic appointments with the doctorate in 59 junior colleges was seven per cent. (Study by Oscar H. Edinger, Jr., President, Mt. San Antonio Junior College, Pomona, California.)

per cent)[4] and the 1958-59 figure for California junior colleges is up almost 3 per cent above that for 1957-58.

The independent colleges and universities have not been dealt with in any detail here because of a lack of comparable data. However, an opportunity was given to check some of the characteristics of the new faculty of this segment and to compare them with the appointees to the faculties of the other three segments. This opportunity was made possible through the availability of data collected for the National Education Association Teacher Supply and Demand Study. The use of these data for comparison has led to the conclusion that, in general, the characteristics of the new faculty of these independent colleges and universities, taken as a group, approximate those of the appointees to the staffs of the state colleges and the University.

Estimates of Net Faculty Demand and Supply

To translate the total demand for new faculty presented in Table 17 into a figure that can be related to the potential supply produced within California, the data on faculty characteristics must be used to compute the "net" demand for California-trained graduates by the type of degree needed.

NET DEMAND FOR CALIFORNIA-TRAINED COLLEGE TEACHERS

The method used in arriving at the net demand figure for California-trained college teachers was to deduct from the total need for each segment the proportion of the demand that has been obtained in the past from persons trained outside California. This in-state demand figure was then reduced by the proportion that experience indicates can be expected to be recruited from a "deferred" supply. (The deferred supply is composed of those trained in California who do not go into college teaching immediately upon receipt of their degrees, but who later come into the teacher-supply pool.) After the net demand has been obtained for each segment, the proportions that have in the period 1954 through 1958 possessed each type of degree are then obtained to determine the demand for these various types of preparation.

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[4] *Teacher Supply and Demand in Universities, Colleges and Junior Colleges, 1957-58 and 1958-59.* Washington, D.C.: National Education Association (Research Report 1959-R10), June, 1959, p. 33.

Involved in this procedure are three critical assumptions:

1. That in the future the same proportion of California's needs will continue to be met from a supply trained outside the state. As noted earlier the Survey Team is convinced that this proportion of staff from outside the state will not continue unless substantial salary increases and "fringe benefits," as indicated in recommendation 3 of this chapter, are provided promptly.
2. That the state will continue to be able to recruit the same proportion of its new staff from business, industry, research, government, and miscellaneous fields
3. That the new staff appointees in the various segments will continue to have the same level of preparation as in the five-year period 1954 through 1958. (The state colleges believe that the 1954-58 level of staff preparation must be raised substantially if these institutions are to provide in the future the quality of instruction and service that the state has the right to expect of them.)

The analysis that follows is valid only to the extent that these assumptions prove correct.

Table 18 presents a projection of this net demand for 1959-1975 using the data on faculty characteristics mentioned earlier in this chapter. Since comparable data for the independent colleges and universities were not available, the method used in the previous study of accepting faculty characteristic percentages halfway between those for the state colleges and the University has been followed for that segment.

As an example, Table 18 shows that the total demand for 20,168 new faculty members for the state colleges during the next 17 years is reduced to a total net demand of 2,882 persons who receive the doctorate from California institutions and go directly into teaching in the state. This net figure is obtained by assuming that 10,689 (53 per cent of the 20,168) of the total need will be trained outside the state, that 2,275 will be recruited from a "deferred" supply, and that only 40 per cent of the 7,204 net supply to be obtained from California institutions will need to have the doctorate.

On the same basis of computation, the total demand of 54,424 new staff members for all segments of higher education is reduced to a

TABLE 18

Estimated Net Direct Demand for Doctor's, Master's and Other Degree Recipients from California Institutions Needed to Staff California Higher Education Institutions, 1959-75 [1]

Supply by geographic source of degree						California degree holders needed by the type of supply									
(1)	(2)	(3)		(4)		(5)		(6)		(7)		(8)		(9)	
								Net direct supply needed from California's schools[4]							
		Out of state		In-state		Deferred supply[2]		Total[3]		Doctor's		Master's		Other	
Segment of higher education	Total demand	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number
Junior colleges	14,711	*52	7,650	*48	7,061	**52	3,672	48	3,389	***9	305	***65	2,203	***26	881
State colleges	20,168	*53	10,689	*47	9,479	†24	2,275	76	7,204	†40	2,882	†47	3,386	†13	936
University of California	12,533	*76	9,525	*24	3,008	†28	842	72	2,166	†70	1,516	†16	347	††14	303
Independent colleges	7,012	†††65	4,558	†††35	2,454	†††26	638	74	1,816	†††55	999	†††32	581	†††13	236
Totals	54,424	60	32,422	40	22,002	34	7,427	66	14,575	39	5,702	45	6,517	16	2,356
Average per year	3,201	--	1,907	--	1,294	--	437	--	857	--	335	--	383	--	139

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[1] Assuming continuing of present per cent of appointees at several levels of preparation and per cent of needs obtained from non-California institutions.

[2] Those excluded from direct supply estimates since they are recruited from research, government, industry, and other miscellaneous occupational sources.

[3] In state supply needs (column 4) less deferred supply (column 5).

[4] Those going directly into college teaching in California.

* Based on per cent of new appointees for each segment who received highest degree (for junior college total degrees) within and without the state.

** Comprises those derived from two groups, estimated as 35 and 17 per cent respectively. The estimate of 35 per cent applies to those coming from high school and elementary teaching and is based upon a study by Oscar H. Edinger, President, Mt. San Antonio Junior College, Pomona, California, who found 49.4 per cent in 1957-58 and 33.2 per cent in 1958-59 in this category. A per cent closer to the latter figure was accepted since it is based on larger number of personnel, including technical positions. The second source of deferred supply, estimated as 17 per cent, is an extrapolation of data from the National Education Association and the Edinger reports.

*** Based on data taken from National Education Association study of *Teacher Supply and Demand in Universities, Colleges, and Junior Colleges, 1957-58 and 1958-59.*

† Based on data from University bio-bibliographical files and from Personnel Office, California State Department of Education, 1954 through 1958.

†† Includes M.D. and D.D.S. degrees.

††† Halfway between University of California and state college experience.

net demand of 5,702 holders of the doctorate to be obtained from the pool of holders of doctoral degrees produced in this state.

ESTIMATED NET SUPPLY OF CALIFORNIA-TRAINED HOLDERS OF DOCTORATES

The net supply of California-trained holders of doctorates that can be expected to meet the needs presented in Table 18 is based upon a projection of the total production of holders of doctorates from all California institutions, reduced by the number of these who will either not go into college teaching or who will go into teaching outside California.

To estimate the number of doctorates to be produced in this state between now and 1975, actual projections of all the California institutions granting the Ph.D. or equivalent degrees were obtained directly from the institutions. In all cases these projections were checked with estimated graduate enrollments, and corrections were made wherever the institutional estimates seemed too far out of line with past experience.

The total number of 34,679 doctorates expected to be produced by California institutions between 1958 and 1974 (the years from which the 1959-1975 supply must be obtained) is shown in Column 1 of Table 19.

The difference between the number of doctorates awarded in 1959 and that projected for 1975 is large. However, a check of the relationships between California's per cent of the 1970 total national college enrollment and its per cent of the 1970 total of doctorates produced tends to validate the institutional projections presented in Table 19. California's proportion of the 1970 total national college enrollment is estimated to be 13.6 per cent.[5] The institutional projections of doctorates produced in California (2,472) are only 13.6 per cent of the estimated 1970 national production of 18,100,[6] or approximately the same proportion as of the total estimated enrollment.

After the number of doctorates to be awarded by California institutions has been obtained, consideration must be given to the pro-

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[5] The national enrollment estimate is taken from *Teacher Supply and Demand in Universities, Colleges, and Junior Colleges.* Washington, D.C.: National Education Association (1959-R-10), p. 50.

[6] Louis H. Conger and Marie G. Fullam, *Projections of Earned Degrees to 1969-70.* Washington, D.C.: U.S. Department of Health, Education, and Welfare, September, 1959, p. 4.

TABLE 19

Estimated Net Supply of Holders of Doctoral Degrees to Be Awarded by California Institutions Based on Institutional Projections [1] and Comparison with Demand, 1959-1975

(1)		(2)		(3)		(4)		(5)		(6)
Gross supply produced		Entering higher education[2]		Placed in California (net supply)[3]		Net direct supply needed[4]		Net oversupply or shortage		Index of supply to demand
Total	Annual average	Total	Annual average	Total	Annual average	Total	Annual average	Total	Annual average	
34,679	2,040	11,097	653	5,881	346	5,702	335	179	11	1.03

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[1] These figures are based on replies to questionnaires sent to the heads of all California independent institutions presently offering the Ph.D. degree and to the chief administrative officers of all campuses of the University. These estimates were for the academic years 1960-61, 1965-66, 1970-71, and 1975-76. Straight line projections were made for the intervening years. In all cases the estimates were scrutinized and tacitly approved by these officers, so that they should reflect considered policy of expansion of staff or facilities and not just the hopes of department chairmen. The projections are for the years 1958-59 to 1974-75, since these are the graduates who will be available to teach in 1959-60 to 1975-76.

[2] The per cent used is 32 and is based on data taken from the National Education Association study of *Teacher Supply and Demand in Universities, Colleges, and Junior Colleges, 1957-58 and 1958-59*. It is only those who enter, not those who continue in college teaching, since they have already met a need before the degree is granted.

[3] Predicted on a proportion equal to 53 per cent remaining in California. This figure is derived from questionnaires sent to placement officers of California institutions that award the doctorate.

[4] Taken from Column 7, Table 18.

portion of those who actually enter teaching in California. This number, given in Column 3 of Table 19, is derived by reducing the total supply (34,679) to the number who can be expected to teach in California institutions. (That is, by subtracting both those who do not enter college teaching and those who enter college teaching but do so outside California.)

Table 19, then, presents the net supply of California-produced holders of doctorates who could be expected to enter college teaching on the basis of the institutional estimates either in California or outside the state. The computation is, of course, dependent upon these assumptions:

1. That the proportion of California-trained holders of doctorates who enter college teaching will approximate that of the period 1954 through 1958
2. That the proportion of this number who will teach in California institutions will continue as in the period 1954 through 1958

COMPARISON OF PROJECTED SUPPLY AND DEMAND

Table 19 also includes in Column 4 the net demand required for doctorates to be awarded by California institutions and compares that demand with the actual supply that, according to institutional estimates, should be available. The figures in Column 5 and the index in Column 6 of Table 19 show that demand and supply will be in approximate balance over the next 17 years (1959 through 1975), granting the awarding of doctorates is in accordance with the estimates.

The fact that demand and supply are in balance for the total period, 1959-1975, however, does not tell the complete story. Table 20 presents a comparison of demand and supply similar to that in Table 19 except that the total period is broken down into smaller segments. This comparison indicates that, up to and including 1965, California's institutions of higher education will be in a period of faculty shortage of doctorates, the index of supply to demand being .67 for 1959-1960, and .85 for 1961-65. In the period 1966-1970, supply and demand is expected to be in approximate balance and during the final five-year period covered by this study, 1971-75, a surplus, according to estimates, should exist. It must be remembered

TABLE 20

Comparison of Demand and Supply of Doctoral Degree Holders for California Institutions of Higher Education, by Selected Time Periods, 1959-1975

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Demand					Supply[6]			
Time period	Total demand[1]	Out-of-state[2]	In-state[3]	Net direct demand[4]	Direct demand for California Ph.D's[5]	Total production[7]	Net supply[8]	Net surplus or shortage	Index of supply to demand
1959-1960	4,878	2,927	1,951	1,288	502	1,995	338	—164	.67
1961-1965	14,227	8,536	5,691	3,756	1,465	7,313	1,240	—225	.85
1966-1970	16,839	10,103	6,736	4,445	1,734	10,713	1,817	+83	1.05
1971-1975	18,480	11,088	7,392	4,879	1,903	14,658	2,486	+583	1.31
Totals	54,424	32,654	21,770	14,368	*5,604	34,679	5,881	*277	*1.05

[1] Total taken from Table 17, Part B.

[2] 60 per cent of Column 1. See Table 18.

[3] 40 per cent of Column 1. See Table 18.

[4] 66 per cent of Column 3. This percentage is the proportion left after taking into account the deferred supply of 34 per cent. See Table 18.

[5] 39 per cent of Column 4. See Table 18.

[6] This is the supply available for the academic years 1959-60 to 1975-76, which means that it is the projected production for the years 1958-59 to 1974-75.

[7] These figures are obtained from the institutional projections described in Footnote 1, Table 19. The estimates for the various time periods are extrapolations, using direct-line projections of the reported figures for 1958-59, 1960-61, 1965-66, 1970-71, and 1975-76.

[8] 16.9 per cent of Column 6. This percentage is the amount by which the total is reduced to account for those awarded doctorates who do not go into college teaching (68 per cent) and those who go into teaching but outside California (47 per cent). See Table 19.

* Totals do not agree with those in Columns 4, 5, and 6 of Table 19, because of independent rounding of percentages.

that these conclusions assume a relative salary advantage and also assume a recruitment pattern mentioned earlier in this chapter which is unacceptable to the state colleges. The "balance" between supply and demand, therefore, must be considered in the light of these reservations.

Lack of necessary data has prevented the development of any systematic analysis of the relationship between supply and demand for specific subject fields. In lieu of such an analysis, the opinions of a large group of placement officers of colleges and universities preparing college teachers were obtained by a nationwide survey. Information was collected separately for the supply of teachers for junior colleges and for other colleges and universities. The fields that appear in the results of this inquiry as undersupplied in 1959 are chemistry, engineering, home economics, mathematics, physics, and women's physical education. Since the supply in the other fields appears to be more adequate and in some oversupplied, a reasonable assumption is that the situation in these current shortage fields may be more critical than the totals would imply.

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Before the findings are summed up, conclusions drawn, and recommendations presented, the importance of the basic assumptions underlying this study should again be pointed up. The findings are valid only if the assumptions are tenable and acceptable. Certain serious questions have already been raised regarding some of them.

Again, the fact should be pointed out that the demand presented in this study takes into account only those junior colleges, state colleges, and University campuses existing or presently authorized. The establishment of such additional institutions would create some need for additional staff because of the effect on college attendance in their immediate areas. On the other hand, the effect on supply that will be brought about by the development of the additional University campuses presently authorized has not been taken into consideration.

PRINCIPLE FINDINGS BASED ON CONTINUATION OF STATUS QUO CONDITIONS

1. To meet the needs of the enrollments projected for California institutions of higher education between 1959 and 1975, a total of 54,424 new full-time faculty members (an annual average of

3,201) will have to be recruited. Of these 29,280 (or 54 per cent) will be needed because of enrollment increases and 25,144 (or 46 per cent) will be needed as replacements due to death, resignation, retirement, and separation from other causes.

2. The greatest numbers of new faculty during this period will be required by the state colleges, 20,168, followed by the junior colleges, 14,711, the University, 12,533, and the independent colleges and universities, 7,012.
3. A large proportion of the newly appointed faculty of all segments of public higher education in California receive their highest degrees from institutions outside the state. For 1957-58 and 1958-59, 1,127 (57.3 per cent) of a total of 1,966 new faculty fell into this category. The proportions by segments were junior colleges, 52.5 per cent; state colleges, 52.6 per cent; and the University of California, 76.2 per cent. Whether these out-of-state proportions can be maintained will depend primarily on relative academic salary levels.
4. Of the new appointees to both the state colleges and the University who were holders of a doctor's degree, the largest number were trained at the University. Of the new faculty appointed by the University from 1954 through 1958, 18.5 per cent had received their doctorates at that institution, while 15.5 per cent of those appointed during that same period by the state colleges had obtained doctoral degrees at the University. However, the list of other institutional sources of supply is quite different for the two segments. For the University, the second to fifth place sources for the five-year period were Harvard, 11.8 per cent; Chicago, 4.8 per cent; Yale, 4.8 per cent; and Michigan, 4.4 per cent. The equivalent sources for the state colleges were Stanford University, 8.2 per cent; University of Southern California, 6.7 per cent; Columbia University, 4.3 per cent; and University of Washington, 4.0 per cent.
5. The occupational sources of supply also vary among the segments. For the years 1954 through 1958, the two major sources of all public segments were teaching and graduate schools, with the remainder coming from business, industry, research, government, and miscellaneous sources. However, whereas the junior

colleges received 70 per cent of their faculty from teaching and 11 per cent from graduate schools, and the state colleges obtained 63 per cent from teaching and 12 per cent from graduate schools, the equivalent proportions for the University were 38 per cent and 34 per cent respectively.

6. A significant proportion of the new faculty of all three segments is obtained from a "deferred" supply; that is, persons who do not go directly into college teaching from graduate school but later enter that profession. For the period covered, the following percentages came from this "deferred" supply: junior colleges, 52 per cent; state colleges, 24 per cent; and the University, 28 per cent. Again, it should be emphasized that the salary problem is basic to attracting people from business and nonteaching occupations.
7. For all segments in the five-year period 1954-1958, approximately 40 per cent of the new faculty appointed held the doctorate at time of appointment; 45 per cent held the master's degree; and 15 per cent held various other degrees. The doctorate was held by 9 per cent of the new appointees of the junior colleges; by 40 per cent of those of the state colleges, and by 70 per cent of those of the University.
8. During the four-year period 1955 through 1958, for the state colleges the per cent of new full-time appointees holding the doctorate steadily declined from 45.9 per cent to 37.3 per cent.
9. The awarding of doctorates by California institutions of higher education is expected to rise from the current level of 865 per year to a total of 3,375 per year in 1975, an increase of 290 per cent. The projections for the University amount to an increase of 444 per cent, whereas those for the independent colleges and universities amount to an increase of 125 per cent. The total number of doctorates to be awarded by California institutions between 1958-59 and 1974-75 at this level of increase will be 34,679.
10. Approximately 32 per cent of the holders of doctorates awarded in California entered higher education teaching for the first time between 1954-1958, while another 26 per cent receiving a doctor's degree were already engaged in college teaching and continue in that profession.

11. Of the holders of California-awarded doctorates entering higher education teaching between 1955-1958 approximately 53 per cent did so in California. The remainder went to other states.
12. College placement officers agree generally that the fields with the greatest current shortage of college teachers are chemistry, engineering, home economics, mathematics, physics, and women's physical education. Similarly, the fields of most adequate supply appear to be history and men's physical education.

CONCLUSIONS

In view of the foregoing, the Survey Team concludes that:

1. If the sources of faculty supply that were available between 1954 and 1958 can be maintained in the same proportion, the total supply of and demand for holders of doctorates to staff California's system of higher education (in the same proportion as in that period) will be in approximate balance over the period from 1959 to 1975. (The Survey Team is convinced that this proportion of staff from outside the state will not continue unless substantial salary increases and fringe benefits as indicated in Recommendation 3 of this chapter, are provided promptly. The state colleges believe that the 1954-58 level of staff preparation must be raised substantially if these institutions are to provide in the future the quality of instruction and service that the state has the right to expect of them.)
2. Despite this over-all balance, the immediate period of 1959-1966 will probably be one of relatively short supply of adequately trained persons to staff the state's institutions of higher education. This immediate short supply is caused by the time lag that exists between the influx of the large enrollments into the colleges and universities and the time this influx is felt in the awarding of doctor's degrees. A seven-year lag is used by the U.S. Office of Education between a student's admission as a freshman and his receiving a doctorate.
3. The diversion of students from state colleges and the University recommended by the Survey Team will alleviate somewhat the shortage of doctorates and the total shortage of faculty for higher education, because:

a. Holders of doctoral degrees comprise a smaller per cent of the faculties of junior colleges than of those of the state colleges or the University.

b. The student-faculty ratio is higher for junior colleges than for either of the other two public segments of higher education.

RECOMMENDATIONS

It is recommended that:

1. Much greater effort be made to divert a greater proportion of college graduates into graduate training preparatory to careers in college and university teaching. This diversion can best be accomplished by a concerted effort on the part of adequately staffed and supported counseling and guidance services at all levels of education, and with the full co-operation of all college and university faculty members.
2. More funds be secured to provide financial assistance to those in graduate training. The high attrition rate in graduate programs is, in large part, due to financial difficulty; and these withdrawals constitute not only a loss to the potential faculty supply but an economic waste to the state. Provision of fellowship and loan funds for graduate students is undoubtedly one of the best ways of reducing the attrition rate.
3. Greatly increased salaries and expanded fringe benefits such as health and group life insurance, leaves, and travel funds to attend professional meetings, housing, parking and moving expenses, be provided for faculty members in order to make college and university teaching attractive as compared with business and industry [7]
4. Greater use be made of California-trained doctoral degree holders, especially in the shortage years immediately ahead. For the three-year period 1955-58 only 53 per cent of those so trained who entered teaching did so in California. Evidence indicates that those leaving California do not do so by choice.[8]

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[7] As an example of the wide differences, of 44 persons awarded Ph.D.'s in shortage fields by the University of California in 1959, 31 accepted positions in industry at an average salary of $9,884 and 13 went into college teaching at an average salary of $6,075.

[8] Of 44 doctoral degree holders recently placed in college and university teaching outside California by the School and College Placement Service of the University of California, Berkeley, 87 per cent had stated a preference for a position in California.

5. Individual faculty members and their institutions jointly assume responsibility for both the initiative and opportunity for the faculty in-service preparation and self-improvement so essential for the growth and development of the institution
6. Strengthening of the master's degree programs in all institutions offering such programs be undertaken by these institutions so that the holders of this degree may be more effective additions to the faculties of colleges, universities, and junior colleges[9]
7. Reorientation of present doctoral programs offered by California institutions be undertaken to insure that those receiving the degree and planning to enter college and university teaching possess the qualities not only of scholars, but of scholar-teachers. Because the University of California awarded 54.6 per cent of the doctorates given by California institutions for the period 1952-53—1955-56, it has a particular responsibility for the implementing of this recommendation.
8. Because of the continual change in faculty demand and supply, the co-ordinating agency annually collect pertinent data from all segments of higher education in the state and thereby make possible the testing of the assumptions underlying this report.[10]

The shortage of college teachers is a serious national problem, especially in areas like California, where rapid growth makes recruitment of proportionately large numbers an immediate necessity. Moreover, during such a period of rapid growth the problem of maintaining high quality is a serious one. There is no basis for complacency in California. The returns to society for the large sums invested in buildings and facilities will be greatly reduced unless the supply of high quality faculty is maintained.

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[9] This is of particular importance to the junior colleges because the highest degree held by 64.7 per cent of those newly appointed in the years 1957-58 and 1958-59 was the master's degree. Although all institutions in the state should co-operate in this effort, the lead should be taken by the state colleges and the University of California because of the high proportion of all such degrees they award.

[10] The 1958 report, prepared by the Joint Staff for the Liaison Committee and entitled *A Study of Faculty Demand and Supply in California Higher Education, 1957-70*, contains a recommendation, approved by both boards, for its re-examination in 1960. A similar procedure should be followed with respect to this analysis.

Chapter VIII

ADULT EDUCATION[1]

The title of this chapter poses in itself a problem of description or semantics. This survey has been concerned with higher education, and in all segments of higher education most of the students are adults by one definition or another, and all have assumed a certain amount of responsibility for their own programs of education. Therefore the classification of "adult" is inadequate as a description of the responsibility shared by all higher institutions to make learning a continuing process and to provide opportunities for intellectual development beyond the years of formal full-time college attendance. These opportunities must be attuned to the cultural, personal, and occupational needs that come with maturity and that change from year to year in the life of each individual. The various segments of higher education have used terms such as *extension, extended-day, part-time, adult, evening classes,* and *continuing education* to describe these programs. Each of these terms falls short of complete description of the functions considered in this chapter, but the general intent of these programs is best expressed by *continuing education.*

The existing State Advisory Committee on Adult Education was designated by the Survey Team as the technical committee on this phase of the study. This committee, established in 1944, then reconstituted and reactivated in 1953, has been effective in reducing undesirable overlapping and duplication of offerings by the various segments of higher education. *A Report of a Survey of the Needs of California in Higher Education, 1948* (Strayer Report)[2] pointed out the urgent need for definition of the functions and areas of service to adults to be assigned to each segment of higher education. Again in 1955 *A Restudy of the Needs of California in Higher Education* noted the confusion and occasional friction that existed in the field of adult education and extension courses in the junior colleges, state colleges, and the University. This study included the following recommendation, which was approved by the Liaison Committee and the State Board of Education:

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[1] Although many fine programs of adult education are offered by independent colleges and universities in California, this chapter deals only with such programs in publicly supported institutions.

[2] Monroe E. Deutsch, Aubrey A. Douglass, and George D. Strayer, *A Report of a Survey of the Needs of California in Higher Education. Op. cit.*

> . . . that in the allocation of services, the junior colleges should confine their course offerings to the thirteenth and fourteenth grade level in their day and evening programs and to adult-education offerings clearly appropriate to their functions; and that the state colleges and the University of California should not offer any courses through their evening or extension divisions which are clearly lower division courses and which unnecessarily duplicate appropriate offerings of the local junior colleges.[8]

The staff which prepared the 1948 Strayer Report and the *Restudy* recognized the impossibility of spelling out completely and finally the differentiation of functions in the field of adult education. This conclusion was supported by a report of a subcommittee of the first State Advisory Committee on Adult Education, and subsequently approved by the committee, which included the following statement:

> It is the opinion of the subcommittee that no workable set of categorical rules governing relationships between and among the public adult education agencies in the State of California can be formulated at this time, which would eliminate all conflicts or duplications in programs.

The Survey Team recognizes the same difficulty in defining fields of service in an area so dynamic and so dependent for its success upon rapid adjustment to new and changing needs. The basic recommendation, therefore, concerns the continuance of co-ordination activities by the State Advisory Committee on Adult Education (with certain additions to personnel as recommended later). This committee should be responsible to the co-ordinating agency, should operate under its sponsorship, and should make its report, together with recommendations, to the agency at regular intervals on all matters relating to *continuing education* or *adult education.*

At the time the State Advisory Committee was reactivated in 1953, both the State Board of Education and The Regents gave approval to a Liaison Committee recommendation for the creation of local advisory committees made up of representatives of publicly supported segments of higher education offering adult education courses in particular areas. The recommendation approved by The Regents on September 26, 1953 and by the State Board of Education on January 4, 1954, follows:

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[8] T. R. McConnell, T. C. Holy, and H. H. Semans, *A Restudy of the Needs of California in Higher Education. Op. cit.*, p. 55.

> 1. A committee composed of an appropriate representative of the University of California and of the institutions under the State Board of Education be appointed by the President of the University and the State Superintendent of Public Instruction, respectively, to designate communities and the appropriate local chief school officer in such communities in the state where difficulties now arise, or seem likely to arise, in the allocation of responsibility for the adult education program among the different public education agencies operating in such communities. Moreover, that, owing to the changes which are continually occurring in adult education needs, this committee annually review this list and modify it as it seems necessary. The representative of the State Board of Education shall be responsible for calling the first meeting of this committee and thereafter this responsibility shall alternate between the two representatives.
>
> 2. The State Superintendent of Public Instruction and the President of the University jointly request the chief local school officer, as named by the above committee in these communities, to set up a local committee of three persons, one representing the public schools including the junior colleges, except junior colleges in separate districts may have a separate representative (decision on this additional representative to be made by the chief local school officer), one the state colleges, and one the University to review all adult education requests and proposals and on the basis of those reviews to allocate responsibility for meeting such requests and proposals to the educational agency which the committee feels is best qualified to meet each particular need and that such allocation be accepted as final. In cases where agreement cannot be reached, the chief local school officer may appeal to the State Advisory Committee on Adult Education whose decision would be accepted as final.

Because the Survey Team believes that the continuation and strengthening of that plan is one of the best ways to resolve the problems which will undoubtedly continue to arise in allocating responsibility for adult education offerings in the communities, it strongly endorses the plan outlined in the recommendation and urges that the State Advisory Committee on Adult Education, in its new relationship to the co-ordinating agency (as later recommended in this chapter), give increased attention to the further implementation of this plan for dealing with problems at the local level.

The State Advisory Committee on Adult Education was designated as the Technical Committee on Adult Education for the purposes of this study. The report of this committee, together with the statement entitled "Functions of the Junior Colleges, State Colleges and the University of California," prepared by the Joint Advisory Committee for the Superintendent of Public Instruction, the President of the University, and the Joint Staff, constitutes the basis for the following findings and recommendations.

General Findings

DEFINITIONS

Section 6352 of the 1959 edition of the Education Code defines an "adult" for purposes of crediting attendance for apportionments from the State School Fund for the fiscal year 1954-55 and thereafter, as follows:

> . . . "adult" means any person who has attained his twenty-first birthday on or before September 1st or February 1st of the semester for which he has enrolled, and who has enrolled in less than 10 class hours as defined in Section 11451 for junior college districts or 10 periods of not less than 40 minutes each per week for high school districts.

However, for *continuing education* purposes, any person beyond the compulsory school attendance age who is not enrolled for full-time regular school work may be enrolled in special, part-time, extension, or adult education classes for which he is eligible.

Part-time undergraduate students in all segments are those enrolled for fewer than 12 units.

Extension courses are those offered in the state colleges to meet a special need (off campus only) for credit and in the University those courses offered through the Extension Division, on or off campus, either with credit or noncredit.

NATURE AND EXTENT OF ADULT EDUCATION

Junior Colleges. The extended-day classes of junior colleges are made up largely of students enrolled for college credit who have met the same entrance and matriculation standards required of regular full-time day students. In 1958-59 there were nine evening junior colleges [4] in the state reporting a total enrollment in adult education of about 16,000. A total of 53 junior colleges operated "adult education" classes and served in these classes an enrollment of 212,888.

The junior college enrollments in extended-day and adult education classes in 1958-59, approximating 229,000, were distributed by per cent, as follows: Business Education, 13.8; Industrial, Technical, Agricultural, 21.7; Parent Education and Homemaking, 6.2; Civic Education, 9.8; Social Sciences, other, 15.2; Mathematics and

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[4] Section 6359 of the 1959 Education Code provides that: "Classes for adults may be maintained in connection with day or evening high schools or day or evening junior colleges."

Physical Science, 11.0; Language (English and Foreign), 10.0; Fine Arts and Music, 4.6; Americanization, 1.6; Crafts, 2.9; and Health and Physical Education, 3.2.

State Colleges. The state colleges offer late afternoon and evening, or extended-day programs, but these terms refer to a time of the day and do not relate to any characteristics of students or their educational objectives. Practically all state colleges offer some classes or parts of multiple-section classes throughout the day, in the late afternoons and evenings, and at times on Saturdays. In the heavily populated urban areas, such scheduling enables students to undertake effective college programs satisfactorily geared to their employment schedules, study hours, and family obligations.

The state colleges also offer regular courses or workshops (off campus) to meet a special need in the "field" (such as teacher education) which are listed as extension courses. In 1957-58, a total of 650 such classes enrolled 21,520 students; the largest groups were enrolled in Education, History, Government, and Psychology.

University of California. The Extension Division of the University offers instructional programs to adults through classes, conferences, correspondence courses, and discussion programs. In addition, various auxiliary services are provided, including campus lectures and speaker's bureau services to community organizations; musical and dramatic programs; film programs; film rentals from a state-wide film library with an annual circulation in excess of 100,000; film production and film sales; counseling and testing services to more than 1,000 adults; and consultative service in 1958-59 to more than one hundred California communities. These programs, with individual enrollments in 1958-59, were as follows:

	Offerings		*Enrollments*	
Program	*Number*	*Per cent of total*	*Number*	*Per cent of total*
Classes [1]	3,955	81.5	86,862	52.5
Conferences	278	5.7	52,940	32.0
Discussion groups	288	5.9	6,212	3.8
Correspondence courses	333	6.9	19,330	11.7
Totals	4,854	100.0	165,344	100.0

[1] Approximately two out of three classes carried University Extension credit and seven out of ten enrollments were in these credit classes.

ADMISSION AND RETENTION STANDARDS

Junior Colleges. High school graduate or eighteen years of age. Retention policies in credit classes similar to those of regular day courses.

State Colleges. No general admission requirements. Prerequisites stated by course and grading standards similar to campus classes.

University of California. No general admission requirements. Some courses have prerequisites. No general retention policy.

CHARACTERISTICS OF ADULT STUDENTS

Age. Wide range in all segments. Median age in University Extension, 32 years. (Not available in other segments.)

Previous Education. Wide range in junior colleges; largely high school graduates or higher in state colleges and the University. In University Extension 98.4 per cent were high school graduates.

Occupation. Wide range in all segments. About half of state college extension students were already employed in public schools and about 10 per cent were seeking training for future employment in public schools. During the years 1957 and 1958, 83.6 per cent of the University Extension students were gainfully employed.

FINANCING ADULT EDUCATION

Among the states of the nation, California has long been a leader both in the character and scope of its adult education programs and in the extent of state support for such programs. Section 17951 of the 1959 Education Code provides as follows for state support of adult classes:

> The Superintendent of Public Instruction shall allow each district for each unit of average daily attendance during the preceding fiscal year for adults, as adults are defined in Section 6352, [see definition earlier in this chapter] exclusive of average daily attendance in classes for inmates of any state institution for adults and for inmates of any city, county, or city and county jail, road camp or farm for adults, one hundred twenty-five dollars ($125) as basic state aid and the same amount as state equalization aid as is computed by dividing the allowance computed for the district under Sections 17614, 17615, and Sections 17901, 17902, 17903, 17904, 17905, and 17906 by the average daily attendance of the district during the preceding fiscal year, exclusive of average daily attendance during the preceding fiscal year for adults, as adults are defined in Section 6352, and for inmates of state institutions for adults and of city, county, or city and county jails, road

> camps or farms for adults less fourteen dollars ($14). The total of basic and equalization aid allowed shall not exceed two hundred twenty dollars ($220) for each unit of average daily attendance during the preceding fiscal year for such adults, exclusive of average daily attendance in classes for inmates of any state institution for adults and for inmates of any city, county, or city and county jail, road camp or farm for adults.

Among the higher education segments, this provision applies only to adult education programs offered by the junior colleges and therefore most of the state support goes to them. The extension programs of the state colleges are essentially self-supporting. The state provided 16.1 per cent of the cost of those offered by the University during 1958-59. (By legislative action this per cent for 1959-1960 was reduced to 9 per cent.)

Junior Colleges. In 1957-58 there were 31,830 units of average daily attendance[5] at a total cost of $10,852,254, distributed as follows:

	Amount	*Per cent of total*
State apportionment	$4,695,254	43.3
Local Tax funds	6,139,000	56.5
Student fees[1]	18,000	.2
Total	$10,852,254	100.0

[1] Charged for classes for adults.

State Colleges. State college extension classes, with minor exceptions, are fully supported by student fees. For the year 1958-59, the income from state college extension programs was $547,731, while expenditures were $505,017, or $42,714 less than income.[6]

University of California. For the 1958-59 year, 83.9 per cent of the cost of University Extension was supported by fees and the remaining 16.1 per cent from state funds.

ENROLLMENT PROJECTIONS

The following estimates are based on the findings of the Technical Committee:

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[5] Section 11451 of the 1959 Education Code states: "The units of average daily attendance in grades 13 and 14 in each junior college of a district for a fiscal year shall be computed by dividing the total number of whole or partial class hours of pupil attendance in the junior college during the fiscal year by 525. The class hour unit for the purposes of this section is defined as not less than 50 minutes exclusive of passing time."

[6] "1958-59 Statistical Report of the California State Colleges, Part F, Degree and Financial Summary." Prepared in the Division of State Colleges and Teacher Education, Administrative Planning Office. Sacramento: California State Department of Education, November, 1959.

	1960		1965		1970	
	Number	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*
Junior colleges	438,000	69.3	556,000	61.5	724,000	58.5
State colleges	28,400	4.5	44,470	5.0	71,825	5.8
University Extension[1]	165,300	26.2	304,000	33.6	442,000	35.7
Total	631,700	100.0	904,470	100.0	1,237,825	100.0

[1] Includes all types of extension enrollments.

RECOMMENDATIONS

It is recommended that:

1. The "Guiding Principles for Adult Education in California's Publicly Supported Institutions" as revised by the State Advisory Committee on Adult Education in February, 1958, be continued as the policy framework within which co-ordination is accomplished, such principles to be periodically examined in the light of changing conditions throughout the state.
2. The existing State Advisory Committee on Adult Education be responsible to the co-ordinating agency and continue the responsibilities delegated to it by action of the State Board of Education and The Regents of the University of California in 1953. Furthermore, that the co-ordinating agency, to which the Committee will annually report and to which it will make its recommendations, provide the Committee with necessary staff assistance.
3. In order for the State Advisory Committee to be more fully representative of agencies engaged in adult education, it be enlarged to include the following representatives, these to have the same length of terms as other members of this Committee:
    a. A representative of the Agricultural Extension Service of the University of California to be appointed by the President of the University
    b. A representative of the Independent Colleges and Universities of the state to be appointed by the Association of Independent California Colleges and Universities
4. In the long-range plans for providing opportunities in higher education to the people of California provision for adequate state support of adult education services be assured. However,

in this determination of what the state should support, effort be made to differentiate between those enrollees who are pursuing a stated, planned program with definite occupational or liberal education objectives and those who are enrolling in single courses for which matriculation or prerequisites are absent.

CHAPTER IX

COSTS OF HIGHER EDUCATION

The California State Legislature for the fiscal year 1959-60 appropriated a total of approximately 239 million dollars for public higher education, including current expenditures, capital outlays, and funds for salary increases, divided roughly as follows: the University of California, 121 million dollars; the state colleges, 91 million dollars; and state aid to junior colleges, 27 million dollars. This appropriation is approximately 11 per cent of the total state budget, which exceeds 2.1 billion dollars and a greater amount than is spent by any other state in the nation for public higher education. Total expenditures for all higher education in California, including federal, state, and local school district funds used to support junior colleges, together with the expenditures of the University of California, the 14 state colleges, and the 70 or more independent colleges and universities, exceeded 600 million dollars in 1959-60.

The Master Plan Survey Team considers a study of costs as basic to its study outcomes. Formulation of educational policy involves weighing alternative patterns or possibilities, and decisions thereon are influenced by the probable costs. In particular, public higher education, supported by large legislative appropriations, requires scrupulous policy planning to realize the maximum value from the tax dollar. Thus, a careful assessment of cost factors is necessary to provide an adequate basis for planning of the state's higher education facilities. These cost factors, as determined by the Technical Committee on Costs of Higher Education in California, are described in this chapter.

THE COST STUDY

The five purposes of the cost study are (1) to determine historical trends of expenditures preceding 1957-58; (2) to analyze selected 1957-58 "unit costs" of higher education; (3) to estimate the probable costs of constructing new institutions of various types and sizes; (4) to estimate state expenditures for support of higher education during the period between 1960 and 1975; and (5) to develop a financial picture of higher education for use in planning its future developments.

This study depends upon certain basic assumptions, among which are the following:

1. The nature and rate of change of college enrollments in California will follow the modified enrollment projections cited in this report and will be distributed as predicted.
2. The number and distribution of new University or state college campuses will not vary greatly from current planning.
3. The independent colleges and universities will continue to carry a substantial proportion of the load of higher education enrollments.
4. The proportion of the costs borne by the student will remain fairly constant.
5. The differentiation of function among the public segments will be in accordance with the Master Plan recommendations.

Any substantial changes in these potential variables may alter cost estimates. Firm predictions, in any case, are difficult because of unforeseen demands upon the colleges to keep abreast of technological advancements or the possibility of a major shift in the nature and attitudes of policy-making agencies, such as the Legislature.

Expenditures

Expenditures considered herein are of two types: *current expenditures,* which are the costs incurred for services purchased and materials consumed in the conduct of activities of an institution during a stated period; and *capital outlay*, which covers costs of capital assets —land, buildings, and equipment used in carrying on the activities of an institution.

Expenditures for higher education have more than tripled during the decade 1948-49 through 1957-58. The major factors contributing to this increase are, of course, the increase of enrollments, inflation, the extension of educational programs, including expensive curricula in such fields as science and engineering, the expansion of research, and services rendered for government and industry.

During the ten-year period 1948-49 through 1957-58, the total expenditures of all California institutions—both private and public—increased from approximately 180 million dollars to 554 million dollars, an increase of 208 per cent. Further analysis of these figures indicates that current expenditures increased from about 147 million to 389 million dollars, an increase of 164 per cent, and capital outlay expenditures increased from about 32 million to 164 million dollars, a 407 per cent increase. (See Section II of the Technical Committee report on "Costs of Higher Education in California" for a breakdown of these figures.)

TOTAL EXPENDITURES FOR ALL PUBLIC INSTITUTIONS

Table 21 shows that the total expenditures of public institutions increased during the ten-year period, 1948-49 through 1957-58, from 112.8 million to 413.2 million dollars, an increase of 266 per cent. These figures show an increase of 210 per cent for current expenditures (from 89.3 million to 276.6 million dollars) and 481 per cent for capital outlay (from 23.5 million to 136.6 million dollars).

Closer examination of these data reveals that educational and general expenditures increased during this period from 80.5 million to 259.2 million dollars, an increase of 222 per cent. Expenditures for auxiliary enterprises increased from 8.3 million to 15.6 million dollars, not quite doubling. Student aid, proportionately a smaller expenditure in public institutions than in independent institutions, increased 352 per cent to 1.8 million dollars. Institutional instruction and research increased during this period from 66.3 million to 208.7 million dollars, an increase of 215 per cent, while organized activities and organized research, primarily that of the University of California, increased from 14.2 million to 50.5 million dollars, an increase of 255 per cent.

TOTAL AND STATE EXPENDITURES BY SEGMENT

Total expenditures and state appropriations for the three types of public higher education in California for the years 1948-49 through 1957-58 are shown in Table 22. Current expenditures, both the total amount and that part provided by the state, appear in the upper half of the table; the lower half shows the same type of information for capital outlays. This table also contains an index of growth, based upon the 1948-49 expenditures.

TABLE 21

Total Expenditures for Institutions of Public Higher Education in California, 1948-49 through 1957-58

(In millions of dollars)

Fiscal year	Current expenditures						Total capital outlay	Total
	Educational and general			Auxiliary and service enterprises	Student aid	Total		
	Institutional instruction and research	Activities and organized research	Total					
1948-49	$66.3	$14.2	$80.5	$8.3	$.4	$89.3	$23.5	$112.8
1949-50	78.6	15.5	94.1	8.7	.4	103.2	36.9	140.1
1950-51	88.3	17.5	105.8	8.7	.5	115.0	59.0	174.1
1951-52	93.5	21.0	114.4	8.7	.5	123.6	39.3	162.9
1952-53	106.5	23.8	130.3	9.0	.6	139.9	50.3	190.2
1953-54	121.9	25.8	147.7	9.1	.7	157.4	57.5	214.9
1954-55	135.5	28.6	164.1	9.9	.8	174.8	53.0	227.7
1955-56	151.4	36.9	188.3	12.6	.9	201.8	44.7	246.5
1956-57	176.0	44.0	219.9	14.0	1.4	235.2	71.3	306.5
1957-58	208.7	50.5	259.2	15.6	1.8	276.6	136.6	413.2
				Per cent of increase				
1957-58 over 1948-49	214.7	255.2	221.9	86.7	351.8	209.8	481.3	266.4
1957-58 over 1953-54	71.3	95.8	75.6	71.5	164.1	75.7	137.6	92.3

Note: The distribution of the above figures among the junior colleges, the state colleges, and the University of California for each of the years included in the table will be found in Section II of the Technical Committee report, *Costs of Higher Education in California, 1960-1975.*

TABLE 22

Expenditures of State Funds and Total Expenditures for Public Higher Education in California 1948-49 through 1957-58 *

(In millions of dollars)

A. Current expenditures

	State funds					Total current expenditures				
Fiscal year	Junior colleges	State colleges	University of California	Total	Index	Junior colleges	State colleges	University of California	Total	Index
1948-49	$9.4	$7.1	$27.5	$44.0	100	$24.2	$12.2	$52.8	$89.3	100
1949-50	9.6	9.1	33.3	52.0	118	29.8	14.9	58.5	103.2	116
1950-51	10.9	11.2	38.8	60.9	138	34.9	16.8	63.4	115.0	129
1951-52	10.4	13.4	46.5	70.2	160	35.2	18.3	70.0	123.6	138
1952-53	10.5	15.8	53.0	79.3	180	38.1	21.8	80.0	139.9	157
1953-54	12.8	17.8	56.6	87.2	198	44.3	26.0	87.1	157.4	176
1954-55	15.3	21.9	60.5	97.8	222	50.2	30.0	94.6	174.8	196
1955-56	18.9	26.5	65.1	110.5	251	56.8	35.2	109.7	201.8	226
1956-57	19.6	33.7	76.7	130.0	295	66.7	43.9	124.6	235.2	263
1957-58	22.7	42.6	89.5	154.8	352	77.0	54.5	145.1	276.6	310
Total	140.2	199.0	547.5	886.7		457.3	273.7	885.8	1,616.8	

TABLE 22 (Continued)

Expenditures of State Funds and Total Expenditures for Public Higher Education in California 1948-49 through 1957-58 *

(in millions of dollars)

	B. Capital outlay									
	State funds					Total capital outlay				
1948-49	0	4.9	10.2	15.0	100	6.4	4.9	12.2	23.5	100
1949-50	0	9.1	10.5	19.7	131	15.8	9.1	12.0	36.9	158
1950-51	0	22.0	15.0	37.0	247	19.7	22.0	17.4	59.0	251
1951-52	0	7.5	16.5	23.9	159	12.9	7.5	19.0	39.3	167
1952-53	0	8.4	23.9	32.3	215	16.0	8.4	25.8	50.3	214
1953-54	0	8.7	23.9	32.6	217	20.2	8.7	28.6	57.5	245
1954-55	0	15.0	18.7	33.6	224	15.8	15.0	22.3	53.0	226
1955-56	0	17.8	11.8	29.6	197	11.8	17.8	15.1	44.7	190
1956-57	0	34.3	12.8	47.2	315	19.8	34.3	17.2	71.3	303
1957-58	0	82.1	20.3	102.4	683	26.2	82.1	28.4	136.6	581
Total	0	209.7	163.7	373.4		164.6	209.7	197.8	572.2	

Source: State Department of Finance Records.

* The figures here include state scholarships awarded to students in public institutions and exclude (a) state scholarships awarded to students in private institutions and (b) expenditures made by the University of California from grants by the Atomic Energy Commission.

Several interesting relationships may be noted in Table 22. State funds have provided more than half the costs of public higher education in California, comprising about 55 per cent of all current expenditures and 65 per cent of capital outlay expenditures. The proportion of total expenditures provided by the state varies from year to year but during the ten-year period it has been increasing, both for current expenditures and capital outlays.

Since 1948-49, annual current expenditures have more than tripled and annual capital outlays have increased nearly sixfold. Expenditures of state funds for current expenses in all public institutions increased from approximately 44 million to nearly 155 million dollars. At the same time, expenditures of state funds for capital outlay fluctuated from year to year, increasing from approximately 15 million in 1948-49 to 102.4 million dollars in 1957-58.

The relative increase of capital outlay is much greater in recent years than in 1948-49, as compared with current expenditures during the same period, because of the urgent need for plant facilities to accommodate postwar enrollments. While University of California capital outlay expenditures have more than doubled during this period, the state college outlay increased from nearly 5 million to over 82 million dollars. Five new state college campuses were constructed during this period and others were enlarged.

Junior Colleges. During the ten-year period, current expenditures for the junior colleges increased from approximately 24.2 million to 77 million dollars, an increase of 218 per cent, while capital outlay increased from 6.4 million to 26.2 million dollars, a 309 per cent increase. Institutional instruction comprised nearly all of the current expenditures for the junior colleges, with no expenditures recorded for student aid or for organized research and only one-half of one per cent expended for auxiliary enterprises.

Junior college capital outlay increased greatly, but none of it was provided by the state. Annual apportionments to the junior colleges increased during the ten-year period from slightly over 9 million to nearly 23 million dollars, a 141 per cent increase. For the entire period, about 31 per cent of the public junior colleges' current expenditures were met from state apportionments.

State Colleges. During the ten-year period, the total expenditures of state colleges increased from 17 million to approximately 136.5

million dollars, an eightfold increase. Current expenditures increased 347 per cent and capital outlay about 1,575 per cent. The extraordinary increase in state college capital outlay is caused by a record appropriation of 82 million dollars for this purpose in 1957-58.

Expenditures for instruction accounted for nearly all the educational and general expenditures for the state colleges, expenditures for organized activities and research being very small. During the ten-year period, educational and general expenditures for state colleges increased 383 per cent.

Expenditures of state funds for current expenses in the state colleges increased during the ten-year period from 7 million to nearly 43 million dollars, an increase of over 500 per cent. For the entire period, 73 per cent of the state colleges' current expenditures were met from state funds, whereas capital outlay funds were derived entirely from state sources.

University of California. At the University of California, total expenditures increased during the ten-year period from 65 million to 173 million dollars, a 167 per cent increase. Current expenditures mounted from approximately 53 million to 145 million dollars, an increase of 175 per cent. At the same time the yearly capital outlay increased from 12 million to 28 million dollars, a 133 per cent increase. The University of California current expenditures increased in each of the ten years and were greater in each year than the total current expenditures of junior colleges and state colleges combined. The rate of increase (175 per cent) of current expenditures for the University of California over the ten-year period was less, however, than that for the junior colleges (218 per cent) and considerably less than that for the state colleges (347 per cent).

Further examination of current expenditures shows that educational and general expenditures for the University increased during this period from approximately 46.4 million to 134 million dollars per year, a 189 per cent increase. Whereas institutional instruction and research increased 160 per cent (from approximately 32.5 million to 84.5 million dollars), expenditures for activities and organized research increased 257 per cent (from nearly 14 million to approximately 49.6 million dollars). Expenditures for auxiliary enterprises increased only 54 per cent and student aid expenditures 352 per cent during this period.

Expenditures from state funds for current expenses by the University of California increased in the ten-year period from approximately 27.5 million to 89.5 million dollars, an increase of 225 per cent. For the entire ten-year period, 62 per cent of the University of California's current expenditures were met from state appropriations, whereas the state provided 83 per cent of the capital outlay funds during this period.

Analysis of Unit Operating Costs

Comparative costs in this study are determined in terms of the cost (or expense) per student credit hour. The number of student credit hours is the sum of the product of the credit hour value of each course and the number of students enrolled in the course. Thus, 30 students completing a course of three credit hours would count as 90 student credit hours.

Unit costs are a valuable tool for analyzing expenditure data, but they are a hazardous device when used to compare the costs of instruction at one institution with another. In making such comparisons, one should ascertain not only that the data are comparable, but that they are interpreted properly. Unfortunately, objective comparisons of the quality of instruction within various institutions are very difficult to achieve. Moreover, since the costs per student credit hour are affected by the types of programs and services rendered, as well as by the number of students served, one must exercise care in judging institutional efficiency on the basis of comparative costs.

Three types of unit costs are presented in this report: (1) *teaching expense,* which comprises the cost of the salaries of the instructors involved in teaching for the portion of their time which is concerned with instruction, and the costs of clerical salaries, supplies, and equipment related to teaching; (2) *departmental expense,* which comprises the teaching expense described above and all other departmental expenses, including those of faculty or departmental research and departmental administration; and (3) *institutional expense,* which comprises the departmental expense described above and other institutional expenses such as general administration, staff welfare, student services, libraries, and maintenance and operation of the physical plant, but excludes the costs of summer sessions, extension and public service, organized research, organized activities, auxiliary enterprises, and student aid.

Although all three types of instructional expenses are used in this study, the *institutional expense* is doubtless the most valid and valuable basis for comparisons between institutions with comparable programs. It represents the total instructional expense involved within the institution and, therefore, serves as an index of the cost involved in educating students.

Student credit-hour costs for lower division in the junior colleges, state colleges, and the University of California were calculated for the year 1957-58 by the Technical Committee on Costs for each of the three types of unit costs mentioned previously. All the state colleges then in operation, the five major campuses of the University of California, and 24 junior colleges, are included in these calculations. Time did not permit compiling the necessary data from all of the junior colleges. Since the junior colleges offer lower division instruction only, they are not included in comparisons of upper division and graduate costs. Furthermore, the financial records as kept by the junior colleges do not include the "departmental expense" category.

Figure 7, "Comparison of Student Credit Hour Costs in California Public Institutions of Higher Education for 1957-58," shows the total expense per student credit-hour of the three component parts (*teaching expense, departmental expense,* and *institutional expense*) for the year 1957-58. This figure consists of four parts as follows:

A. Lower Division Costs in Junior Colleges
B. Lower Division Costs in the State Colleges and the University of California
C. Upper Division Costs in the State Colleges and the University of California
D. Graduate Division Costs in the State Colleges and the University of California

It may be noted in Figure 7D that the institutional expense per student credit hour for graduate work is much higher in the University than in the state colleges. The reason for this difference is that the University program is much more extensive and specialized. The state colleges offer programs leading only to the master's degree in selected fields, whereas the University's costs cover a wide variety of highly specialized doctoral and professional programs.[1]

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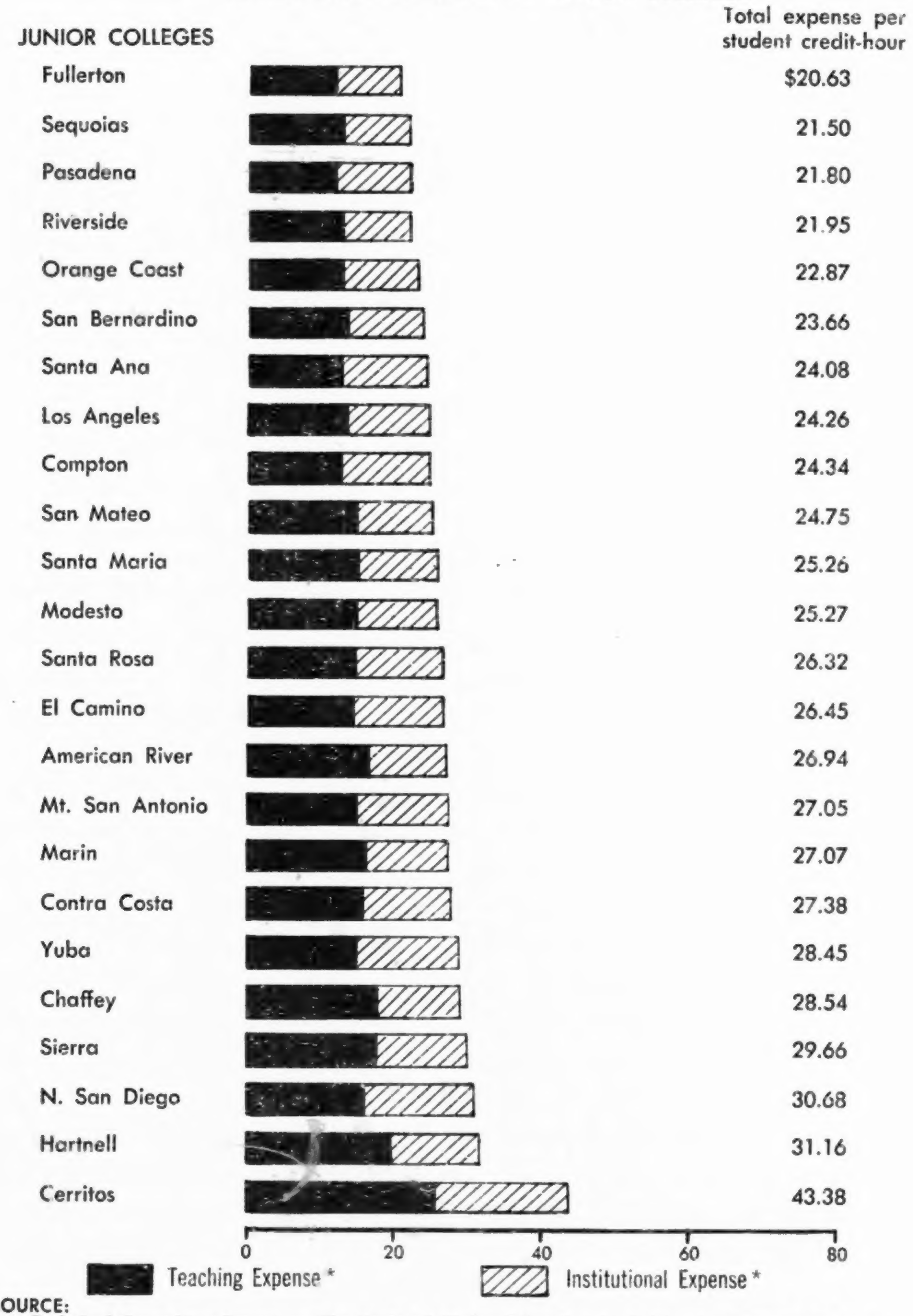
[1] The costs of professional schools such as medicine and dentistry are not included in these comparative data.



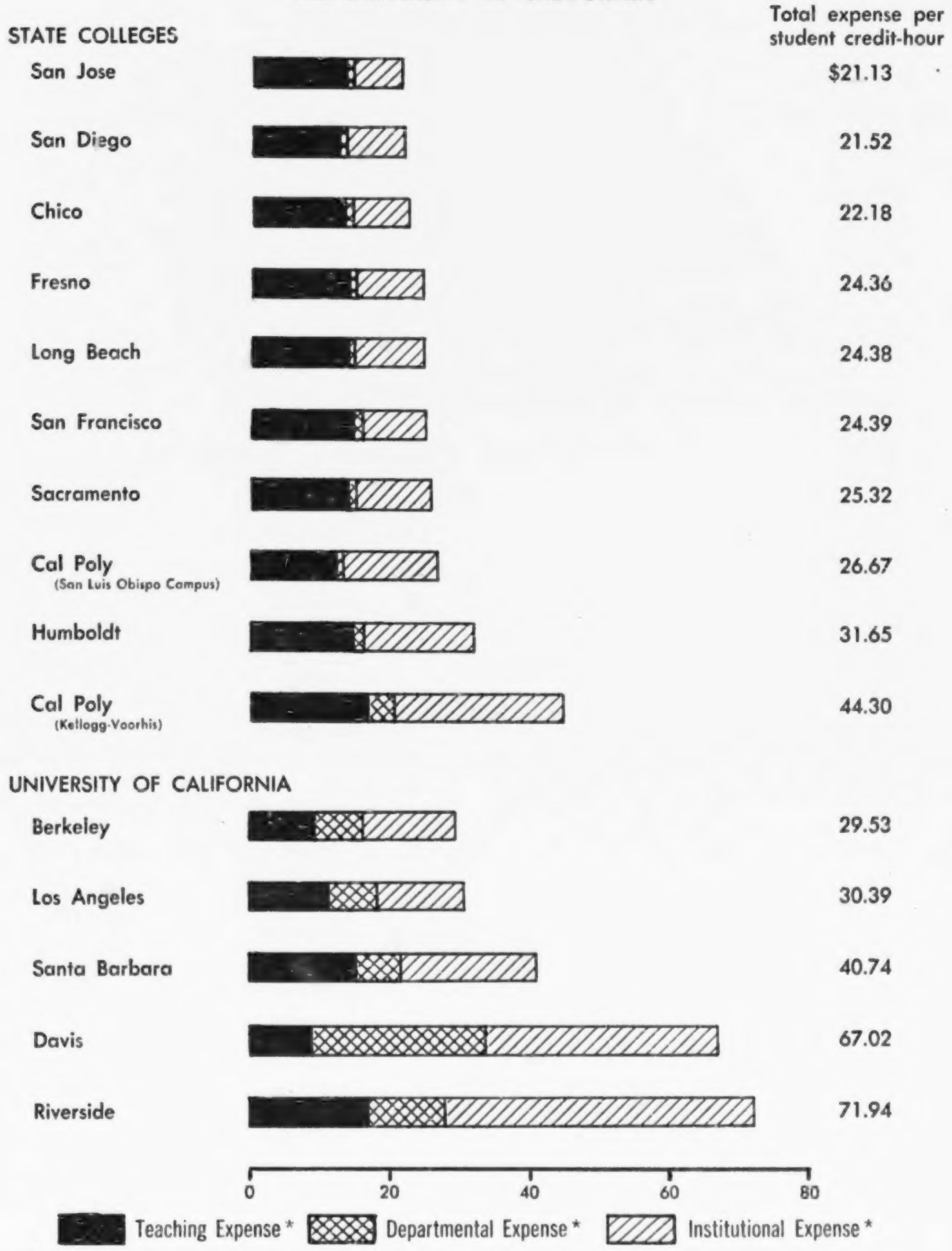
A. LOWER DIVISION COSTS IN JUNIOR COLLEGES

SOURCE:
Technical Committee Report on *The Costs of Higher Education in California, 1960-75.* Departmental expenses, included hereafter in Figure 7 were not available for the junior colleges.

* See text for a description of expense classifications.

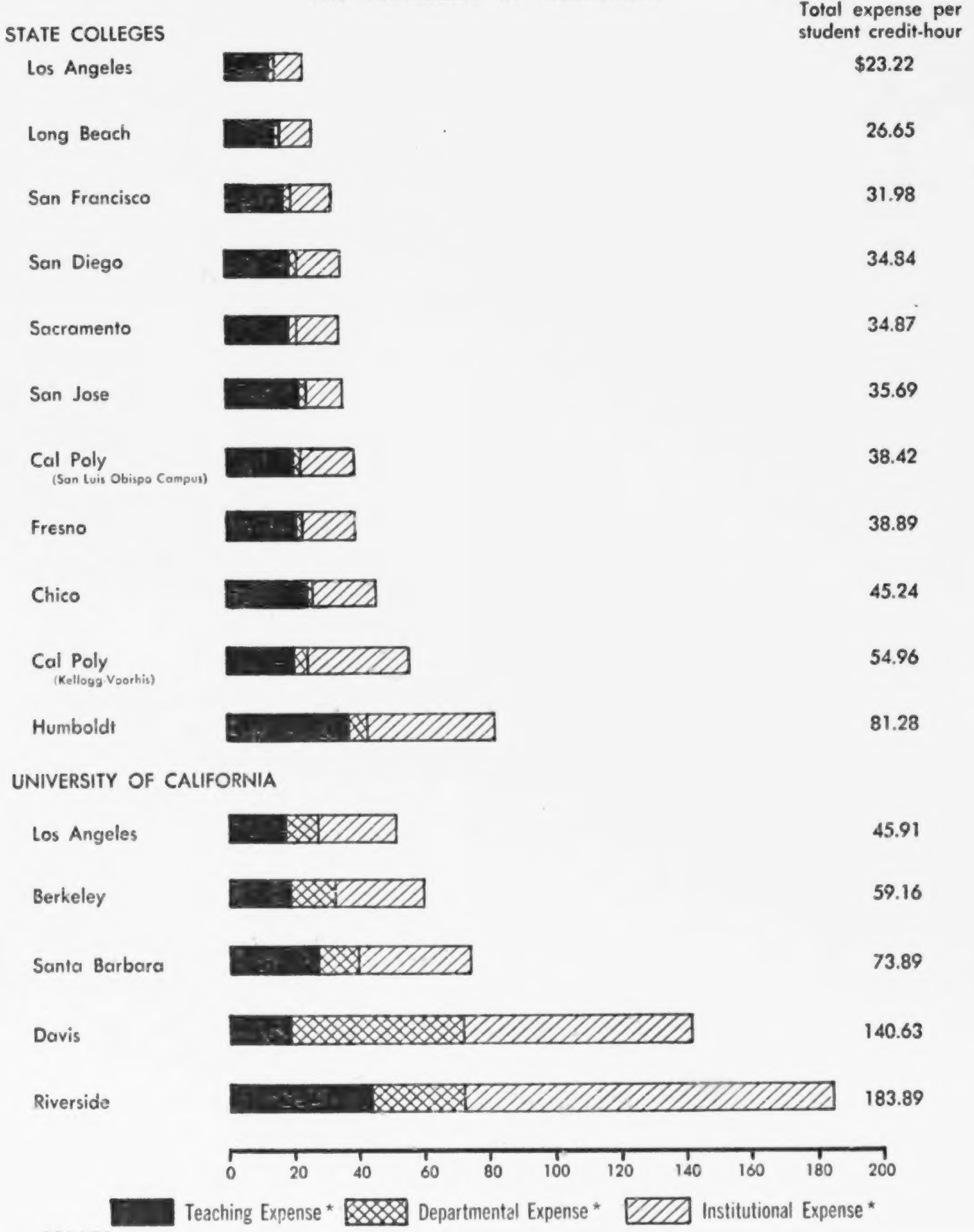
FIGURE 7
Comparison of Student Credit-Hour Costs in California Public Institutions of Higher Education for 1957-58

B. LOWER DIVISION COSTS IN THE STATE COLLEGES AND THE UNIVERSITY OF CALIFORNIA



SOURCE:
Technical Committee Report on *The Costs of Higher Education in California, 1960-1975.*
* See text for a description of expense classifications.

FIGURE 7—Continued
Comparison of Student Credit-Hour Costs in California Public Institutions of Higher Education for 1957-58

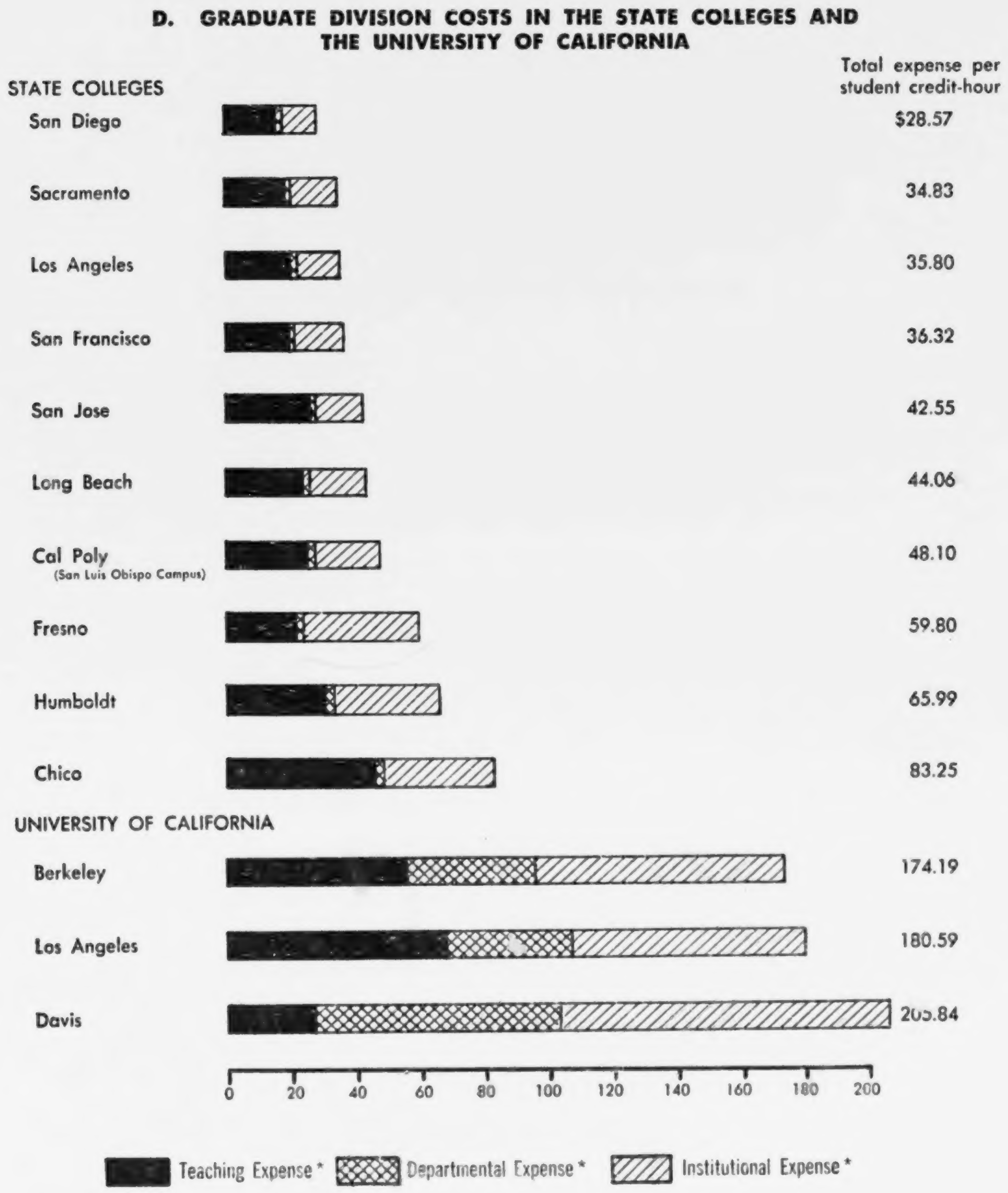


C. UPPER DIVISION COSTS IN THE STATE COLLEGES AND THE UNIVERSITY OF CALIFORNIA

SOURCE:
Technical Committee Report on *The Costs of Higher Education in California, 1960-1975.*

* See text for a description of expense classifications.

FIGURE 7—Continued
Comparison of Student Credit-Hour Costs in California Public Institutions of Higher Education for 1957-58



D. GRADUATE DIVISION COSTS IN THE STATE COLLEGES AND THE UNIVERSITY OF CALIFORNIA

SOURCE:
Technical Committee Report on *The Costs of Higher Education in California, 1960-1975.*

* See text for a description of expense classifications.

FIGURE 7—Continued
Comparison of Student Credit-Hour Costs in California Public Institutions of Higher Education for 1957-58

THE COST OF ESTABLISHING NEW INSTITUTIONS

The Technical Committee report includes estimates for new campuses of various kinds and sizes, as well as the per student costs for various kinds of buildings. These data later form the basis for estimates of capital outlay expenditures in the years ahead.

COSTS OF SELECTED CAMPUSES

Estimates of capital outlay for new campuses were investigated by ascertaining the costs of new campuses constructed within the past ten years. Seven selected junior college campuses constructed during this period were studied and their total costs identified, as shown in Table 23. The capital outlay for each of these seven campuses in 1958 dollars ranged from 2.3 million dollars in the case of Coalinga to more than 10 million dollars for the Bakersfield campus.

TABLE 23

Total and Per Student Capital Outlay Cost for Selected Junior College Campuses

Campuses	Cost in 1958 dollars[1]	Average daily attendance	
		Capacity[2]	Cost per a.d.a.[3]
American River	$6,329,461	3,100	$2,040
Antelope Valley	8,317,299	2,500	3,330
Bakersfield	10,015,649	3,500	2,860
Cerritos	8,239,320	3,000	2,750
Chaffey	7,062,003	3,000	2,350
Coalinga	2,304,825	800	2 880
Reedley	2,639,984	950	2,780

[1] Excludes residence halls or stadiums or both.
[2] Capacity estimated by administrative head of institution.
[3] An a.d.a. student is equivalent to two-thirds of a full-time student.

Likewise, the actual costs of constructing University and state college campuses during the past decade were studied. Only one University campus, namely Riverside, falls in this category, but five state colleges were constructed during this period. The costs of these institutions translated into 1958 dollars are indicated in Table 24.

Because of many complicating factors, it is nearly impossible to make any accurate comparison of the per square foot cost of junior college, state college, and University buildings. In general, the dif-

TABLE 24

Total and Per Student Capital Outlay Cost for Selected State Colleges and University Campuses

Campuses	Cost in 1958 dollars	Computed capacity full-time students[1]	
		Number	Cost per student
Fresno State	$33,006,100	6,000	$5,500
Long Beach State	32,186,800	8,276	3,890
Los Angeles State	*26,761,800	7,081	3,780
Sacramento State	22,168,500	3,562	6,220
San Francisco State	*30,408,350	5,969	5,090
University of California Riverside (Letters and Science only)	*21,244,300	1,916	11,090

[1] Capacity based on computed capacity in accordance with space standards currently in use.
* Excludes land acquisition.

ferences in cost per square foot of building space at the University and at the state colleges were small. Such differences as exist in the cost per student are the result almost exclusively of differences in the amount and kinds of building space required for the various programs. Advanced graduate and other specialized programs conducted in the University require more space in relation to the number of students in order to provide for research and other specialized functions within the educational process than in more general types of programs.

TYPICAL CAMPUS COSTS

It is estimated in the Technical Committee report that a typical junior college plant costs (in terms of 1958 dollars) approximately $3,200 per student on the basis of average daily attendance for a campus of 2,000 a.d.a., $2,800 for a campus of 4,000 a.d.a., and $2,500 for a campus of 8,000 a.d.a. These rounded figures, converted into total campus costs, are indicated in Table 25. Thus, a campus with a capacity for 2,000 a.d.a. would cost $6,400,000; for 4,000 a.d.a. the cost approximates $11,200,000; and for 8,000 a.d.a. it becomes $20,000,000.

Similarly, the net capital outlay costs for three sizes of state colleges and University of California campuses are estimated as indicated in Table 26. These figures show, for example, that for a state college of 5,000 full-time students, where 10 per cent of the full-time student body is provided with residence halls, the cost is $4,835 per full-time student in terms of 1958 construction cost levels. For a campus of the University of California with a student body of the same size and the same per cent of students housed, the correspond-

TABLE 25

Estimated Costs of "Typical" Junior Colleges

Campus sizes	1958 costs per a.d.a.	Total 1958 costs
2,000 a.d.a. Campus	$3,200	$6,400,000
4,000 a.d.a. Campus	2,800	11,200,000
8,000 a.d.a. Campus	2,500	20,000,000

TABLE 26

Net Capital Outlay for Three Sizes of State College and University Campuses (Based on 1957-58 educational programs and 1958 construction costs)

Full-time enrollment and per cent housed	State colleges		University of California	
	Per student	Total (In millions)	Per student	Total (In millions)
5,000 full-time students				
No students housed	$4,280	$21	$7,400	$37
10 per cent housed	4,835	24	7,825	39
25 per cent housed	5,670	28	8,465	42
10,000 full-time students				
No students housed	4,050	41	7,100	71
10 per cent housed	4,605	46	7,525	75
25 per cent housed	5,437	54	8,162	82
20,000 full-time students				
No students housed	3,750	75	6,630	133
10 per cent housed	4,305	86	7,055	141
25 per cent housed	5,137	103	7,692	154

NOTE 1: Nonresidential figures represent total project costs, including equipment at $31.00 per gross square foot, plus 12 per cent for physical education fields and courts, primary utilities, roads and walks, and other general site development, but not including more than nominal land acquisition cost. Not applicable to campuses with emphasis on agriculture, engineering, medical and health sciences or technology.

NOTE 2: Residential figures include student housing at $6,500 per student housed, including dining facilities, plus 15 per cent of student housing costs for related general site development, less loan fund financing assumed to be 50 per cent of residential buildings, excluding dining facilities in the case of the state colleges, including dining facilities in the case of the University of California, and excluding general site development in both cases.

ing expenditure of state funds would be $7,825 as of 1958. If the per cent of students housed were increased to 25 per cent, the 1958 net cost per full-time student would be approximately $5,670 and $8,465, respectively.

If the costs of land are unusually high, the figures cited in Table 26 will prove to be conservative. Moreover, these data do not include any allowance for such additional costs as those of parking structures or for buildings over three stories high. Also, there is no allowance for any expansion of research or other public service activities beyond the state recognized levels of 1957-58.

CONSTRUCTING NEW CAMPUSES VERSUS EXPANDING OLD ONES

An inquiry into the relative economic advantages of developing new campuses or expanding existing campuses does not yield a clear-cut answer regarding which is more economical. The deciding factor in tipping the economic scales toward either direction appears to be in the per cent of the students to be housed in residence halls. With a constant per cent housed, the estimated cost of expanding an existing campus is comparatively so little less than that of developing a new campus that such factors as land costs could tip the scales either way. If, however, the alternative to new campus development involves a significantly greater per cent of students housed on the expanded existing campus, then the difference in capital outlay generally is clearly in favor of the development of new campuses.

Projected Costs of Higher Education

In any attempt to project the costs and expenditures of public higher education in a dynamic state such as California many difficulties are likely to be encountered and the job is hazardous at best. The marked growth of the state's population and economy, accompanied by demands for highly trained personnel for its technology, are conditions which alter the growth of college enrollments. Even if enrollments could be forecast accurately, cost would be affected by unforeseen changes. As evidence of the risk in attempting to forecast costs accurately, it should be noted that the 1948 Strayer Committee Report estimated a total current expense of public higher education for 1960 as $70,170,000, whereas it appears that the 1959-60 figure will surpass 300 million dollars. Similarly, the *Restudy,* published in

1955, estimated total expenditures of public higher education in 1965 as $293,080,359, but it appears that this amount will fall short of meeting the 1959-60 needs, to say nothing of the needs that will exist in 1965.

The procedure employed in this report is to use the 1957-58 unit cost per student for current expenditures, by segment and academic level, as a base for calculating future expenditures in terms of enrollment projections, by segments and academic levels, for a target year. Capital outlay projections, on the other hand, are based upon the average per student cost of buildings and facilities, beyond capacities which exist or for which funds are available and in terms of established space and utilization standards, projected for the needs for a given future year. The target years used for future projections are 1965, 1970, and 1975. The projections apply only to a given year.

Two sets of estimates of expenditures and state appropriations required to support higher education in California in 1965, 1970, and 1975 are set forth in this report. The first projections arise from *status quo* conditions, defined to mean 1957-58 dollar costs of education, and based on a continuation of current standards of admission, of current distribution of educational costs, and of the same distribution of students among the three public segments of higher education. The second set of estimates, *modified projections,* are based on the recommendations of the Master Plan Survey Team on standards for admission, diversion of lower division students to the junior colleges, increased proportion of support paid the junior colleges by the state, and other recommendations, including the creation of new institutions.

STATUS QUO PROJECTIONS

Estimates of future total expenditures and state funds required, on the basis of *status quo* projections, are shown in Table 27. The increasing amounts of expenditures for the three periods indicated are a reflection primarily of rapidly increasing collegiate enrollments during the years ahead.

If the *status quo* projections materialize, total expenditures in 1975-76 will exceed one billion dollars. Nearly two-thirds of this amount (665.5 million dollars) will be from state support. Again, it must be emphasized that these data concern only annual expenditures for the years included in the table.

TABLE 27

Estimated Total Funds and State Funds Required for Public Higher Education on the Basis of Status Quo Projections

(In millions of dollars)

Segments	1965-66		1970-71		1975-76	
	Total	State	Total	State	Total	State
Junior colleges						
Current expenditure	152.8	47.4	192.9	59.8	236.3	73.3
Capital outlay[1]	20.6	*	41.1	*	48.2	*
State colleges						
Current expenditure	127.3	108.2	190.9	162.3	243.8	207.2
Capital outlay[2]	**(55.8)	55.8	**(43.2)	43.2	**(39.9)	39.9
University of California						
Current expenditure	268.4	166.4	373.8	231.8	478.8	296.9
Capital outlay[2]	**(60.2)	60.2	**(48.5)	48.5	**(48.2)	48.2
Total						
Current expenditure	548.5	322.0	757.6	453.9	958.9	577.4
Capital outlay	**(136.6)	116.0	**(132.8)	91.7	**(136.3)	88.1
Grand total	**(685.1)	438.0	**(890.4)	545.6	**(1,095.2)	665.5

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[1] The junior college representatives on the Master Plan Survey Team favored a different method of estimating capital outlay in the junior colleges, i.e., use of a.d.a. of daytime students only rather than total a.d.a. as a basis. This method, if used, would have appreciably reduced capital outlay estimates for these institutions.

[2] Capital outlay appropriations for state colleges and University represent net capital outlay of state funds, with only partial inclusion of land acquisition costs and complete exclusion of University medical centers.

* At present all capital outlay in junior colleges is financed by local school districts.

** Figures in parentheses are not total expenditures because of limitation of footnote 2.

MODIFIED PROJECTIONS

Estimated total expenditures and state funds required for public higher education on the basis of *modified* projections are shown in Table 28. These estimates, as indicated previously, are based upon changed conditions as recommended in the Master Plan Survey. Among other changes, it assumes a gradual diversion of 42,600 enrollees from the state colleges and the University to the junior colleges by 1975, as well as the gradual increase of state apportionments to the junior colleges from 30 per cent to 45 per cent of a.d.a. support costs. A proposal for state grants or loans or both to assist junior college capital outlay funds, a policy which would have marked effect upon state appropriations for higher education, could not be calculated in these projections because no specific amount of such support was included in the Master Plan recommendations.

TABLE 28

Estimated Total Funds and State Funds Required for Public Higher Education on the Basis of Modified Projections

(In millions of dollars)

Segments	1965-66		1970-71		1975-76	
	Total	State	Total	State	Total	State
Junior colleges						
Current expenditure	160.2	56.1	210.8	84.3	267.0	120.2
Capital outlay[1]	31.6	*----	56.2	*----	62.8	*----
State colleges						
Current expenditure	121.0	102.9	179.9	152.9	226.6	192.6
Capital outlay[2]	**(50.2)	50.2	**(39.5)	39.5	**(35.9)	35.9
University of California						
Current expenditure	233.2	144.6	323.2	200.4	448.0	277.8
Capital outlay[2]	**(42.7)	42.7	**(50.6)	50.6	**(57.0)	57.0
Total						
Current expenditure	514.4	303.6	713.9	437.6	941.6	590.6
Capital outlay	**(124.5)	92.9	**(146.3)	90.1	**(155.7)	92.9
Grand total	**(638.9)	396.5	**(860.2)	527.7	**(1,097.3)	683.5

[1] As stated in footnote 1 of Table 27, the junior college representatives on the Master Plan Survey Team favored a different method of estimating capital outlay in the junoir colleges, i.e., use of a.d.a. of daytime students only rather than total a.d.a. as a basis. This method, if used, would have appreciably reduced capital outlay estimates for these institutions.

[2] Capital outlay appropriations for state colleges and University represent net capital outlay of state funds, with only partial inclusion of land acquisition costs and complete exclusion of University Medical Center.

* At present all capital outlay in junior colleges is financed by local school districts.

** Figures in parentheses are not total expenditures because of limitation of footnote 2.

NOTE: The capital outlay figures in this table do not agree with those found on Page 107 of the Technical Committee Report entitled, *Costs of Higher Education in California, 1960-1975*, because in those figures account has been taken of the cost impact of the Master Plan Recommendations of Utilization Standards and the increased library seating required to meet American Library Association standards.

State appropriations, based upon modified projections, will increase from approximately 400 million dollars in 1965 to nearly 700 million dollars in 1975. Although capital outlay will remain fairly stable, involving an annual expenditure of about 100 million dollars during this period, current expenditures will nearly double, extending from approximately 300 million dollars in 1965 to nearly 600 million dollars in 1975. Nearly half of the grand total estimates for both the *status quo* and *modified* projections will be expended by the University of California. The current expenditures for each segment will nearly double during this period of time. State college capital outlay is predicted to decrease from 50.2 million dollars in 1965-66 to 35.9 million dollars in 1975-76, and for the University of California it is estimated to increase from 42.7 million dollars to 57.0 million dollars in this same period.

FINDINGS

1. For the ten-year period, 1948-49 through 1957-58:
   a. Total expenditures for all institutions of higher education in California increased from 180 million to 554 million dollars or 208 per cent. The increase in current expenditures of 242 million dollars accounted for nearly two-thirds of the increase; capital outlay accounted for the balance.
   b. Total expenditures of public institutions increased in the ten-year period from 112.8 to 413.2 million dollars, an increase of 266 per cent. During this time expenses for education and general items increased 222 per cent; for auxiliary enterprises, 88 per cent; student aid, 352 per cent; and capital outlay, 481 per cent.
   c. The state provided more than half the costs of public higher education in California, about 55 per cent of all current expenditures and 65 per cent of capital outlay expenditures.
   d. Annual state apportionments to junior colleges, comprising about 31 per cent of current expenditures, increased during the ten-year period from slightly over 9 million to 23 million dollars, an increase of 141 per cent.
   e. The state provided 73 per cent of the state colleges' current expenditures and all of the capital outlay funds. During this period, the state colleges expended state funds of 199 million dollars for current expenditures and 210 million for capital outlay.
   f. A total of 62 per cent of the University's current expenditures and 83 per cent of its capital outlay funds were provided by the state during this period. Again, in terms of state funds, the University expended 547 million dollars for current expenditures and 164 million dollars for capital outlay purposes.

2. Estimated capital outlay costs per student in average daily attendance for "typical" junior college campuses are as follows:

$3,200 for 2,000 a.d.a. campuses, $2,800 per a.d.a. for 4,000 a.d.a. campuses, and $2,500 per a.d.a. for 8,000 a.d.a. campuses.

3. Net capital outlay costs for state college campuses, without residence facilities, are estimated as follows: $4,280 per student for 5,000 full-time students, $4,050 per student for 10,000 full-time students, and $3,750 per student for 20,000 full-time students.
4. Net capital outlay costs for University of California campuses, without dormitory facilities, are as follows: $7,400 per student for 5,000 full-time students, $7,100 per student for 10,000 full-time students, and $6,630 per student for 20,000 full-time students.
5. The total expenditures for public higher education in 1975-76, on the basis of *status quo* projections, will exceed one billion dollars, two-thirds of which will require state funding. An estimated annual state appropriation of 577.4 million dollars for current expenditures and 88.1 million dollars for capital outlay will be required by all public institutions of higher education at that time.
6. The *modified* projections are estimated to require in 1975-76, about 684 million dollars of state appropriations, 93 million to be applied on capital outlay, and 591 million to meet current expenditures.

JUNIOR COLLEGE SUPPORT

The state's responsibility for financing junior colleges is a matter of vital concern to the Master Plan Survey. Currently, through apportionments paid by the state for average daily attendance of students, about 30 per cent of the support costs for the junior colleges is paid from the State School Fund. Other current support, as well as all capital outlay, is provided by the local districts.

Both The Regents and the State Board of Education approved the following recommendation in the *Restudy:*

> In view of the outstanding success of the California junior college program, the Restudy staff recommends that active encouragement be given by the State Superintendent of Public Instruction, the State Department of Education, the State Board of Education, and other appropriate agencies to the establishment of new junior colleges in populous areas with adequate resources not now adequately served.

The Survey Team concurs fully in that recommendation. It further believes that in addition, specific provisions should be made to divert lower division students from the state colleges and the University to the readily accessible junior colleges. Such a diversion will implement another approved *Restudy* recommendation, which provides for a reduction in lower division enrollments in relation to those in the upper division and graduate fields. Such a recommendation is found in Chapters I and IV of this Survey Team report.

Among the effects of this diversion will be to (a) protect family incomes by permitting more students to live at home while attending college; (b) conserve space and instructional expense at the senior institutions for a larger proportion of upper division and graduate students; (c) reduce the amount of dormitory space needed at the state colleges and the University; and (d) reduce the cost to the state for both capital outlay and current operating costs.

These benefits, the Survey Team believes, make it advantageous for the state to increase the apportionments granted to junior colleges and to undertake a program of sharing in the construction funds necessary to expand the junior colleges. The increase should be effected gradually. In order to safeguard local district control over the junior colleges, the maximum proportion of state subsidy might well approach, but not attain, 50 per cent of total expenditures. Such a proposal could be realized if the Legislature were to augment the State School Fund increasingly each year over a 15-year period until the junior college apportionments approximate 45 per cent of the total current support for these institutions.

Further, the Survey Team believes that state participation in construction costs of junior college facilities is necessary to accelerate their growth sufficiently to accommodate the enlarged future enrollments. The idea of state assistance for junior college capital outlay is not new. Proposed legislation, such as Assembly Bill No. 24 of the 1959 legislative session, has been introduced in the past to achieve this type of assistance. The Regents and the State Board of Education adopted a resolution on April 15, 1959, stating that "the State Board of Education and the Regents of the University of California, in joint session, endorse in principle the idea of State assistance for capital outlay for junior colleges at such times as State finances permit."

The Survey Team considered several types of grants and loans, and various methods of distributing state aid on the basis of equalization, uniform grants, growth factors, and other principles. In view of the time necessary to design a sound proposal, however, it appeared inadvisable to propose a specific legislative program in this report.

The Survey Team believes, however, that because of the planned enlargement of junior college enrollments to relieve state-supported institutions, the method devised for distributing state aid to the junior colleges for capital outlay purposes should be based primarily, if not totally, upon the growth or potential growth of these institutions. Since junior colleges will generally increase in enrollments along with other public institutions, all or practically all, will benefit from a state subsidy based on growth.

The Survey Team was concerned with the degree to which population centers with large numbers of potential enrollees sufficient to commence a new junior college preferred to pay out-of-district fees for their youth rather than establish a local institution. This evasion of responsibility tends to restrict educational opportunities of local youth and, in the long term, has serious repercussions upon the general cultural level of the area. Steps should be taken to encourage all areas of the state to share more equally in supporting junior college education, either by organizing junior college districts when needed or by contributing more equitably to the total costs of junior college education in districts which support junior colleges.

A further concern of the Survey Team is that all funds intended specifically for, or warranted by, the junior colleges, be expended for junior college education. The safeguarding of state funds for the specific purposes intended was considered important, particularly if the state obligates itself to provide greater assistance for the junior colleges in the future. Such funds should not be diverted, either wholly or partially, for other public education programs. In many instances, this problem may be resolved by more precise accounting procedures. In other cases, a clarification of law requiring the disposition of junior college funds may be helpful.

RECOMMENDATIONS

It is recommended that:

1. Procedures be devised to assure that all funds allocated to and

for junior colleges for current expense or for capital outlay by the state be expended only for junior college purposes, and further that the law be clarified to require that all funds received from county junior college tuition funds for use of buildings and equipment be expended solely for junior college purposes

2. In view of the added local financial obligations, for both current expenses and capital outlay, which will result from the Master Plan Survey recommendations designed to divert to the junior colleges some 50,000 lower division students from the 1975 estimates for the state colleges and the University of California, and the attendant savings to the state resulting therefrom, the following actions be taken:

    a. Procedures and methods be devised and adopted by the Legislature that will increase the proportion of total current support paid to the junior colleges from the State School Fund (augmented for this purpose) from the approximately 30 per cent now in effect to approximately 45 per cent not later than 1975

    b. A continuing program be devised and adopted by the Legislature that would distribute construction funds, either through grants or loans or both, for capital outlay purposes annually to junior colleges as determined by growth, this program being for the purpose of assisting junior colleges to meet the facility needs of projected enrollments and of the students to be diverted to the junior colleges.

3. All the territory of the state not now included within districts operating junior colleges be brought into junior college districts as rapidly as possible, so that all parts of the state can share in the operation, control, and support of junior colleges. Pending the achievement of this objective, means be devised to require areas that are not a part of a district operating a junior college to contribute to the support of junior college education at a rate or level that is more consistent with the contributions to junior college support presently made by areas included in districts that maintain junior colleges.

STUDENT FEES

Higher education in California is well regarded in the nation for the quality of its programs and services and the broad range of educational opportunities offered its students. The plan for this study includes the following two questions pertaining to student fees. "How much of the costs of public higher education should be borne by the students?" "Should the present fee structure be altered?" The important issue here is whether an increase in the cost to the students can be levied without depriving many able and qualified youth of educational opportunity and in so doing fail to meet the needs of society for trained personnel.

Currently, students in California public higher education contribute directly to the financing of college programs by the payment of tuition or fees. Tuition is defined generally as student charges for teaching expenses, whereas fees are charges to students, either collectively or individually, for services not directly related to instruction, such as health, special clinical services, job placement, housing, recreation.

Continuing a principle in the Organic Statutes of California in 1867-68, under which the University of California was created, public higher education institutions in California do not charge tuition to bona fide legal residents of the state. On the other hand, students who do not qualify as residents must pay tuition. For the year 1959-60, nonresident tuition for regular students was $127.50 per semester in the state colleges and $250 per semester at the University. Currently, the University is charging according to law the maximum permissible nonresident tuition. (See Section 23053, 1959 Education Code.) The 1959 Legislature passed a law which permits local governing boards of the junior colleges to charge a nonresident fee.

Incidental and other fees are charged at all state colleges and campuses of the University. In the state colleges, a materials and service fee of approximately $33.00 per semester is charged all regularly enrolled students. The University, on the other hand, charges an incidental fee of $60.00 per semester to its enrollees. In addition, student body and other fees are paid by students who are the recipients of special types of noninstructional services.

The Survey Team believes that the traditional policy of nearly a century of tuition-free higher education is in the best interests of the state and should be continued. The team noted with interest an address given in May, 1958, by President James L. Morrill of the University of Minnesota, who commented as follows on the desire of some organizations and individuals to raise tuition and fees to meet the full operating costs of public institutions of higher education:

> This notion is, of course, an incomprehensible repudiation of the whole philosophy of a successful democracy premised upon an educated citizenry. It negates the whole concept of wide-spread educational opportunity made possible by the state university idea. It conceives college training as a personal investment for profit instead of a social investment.
>
> No realistic and unrealizable counter-proposal for some vast new resource for scholarship aid and loans can compensate for a betrayal of the "American Dream" of equal opportunity to which our colleges and universities, both private and public, have been generously and far-sightedly committed. But the proposal persists as some kind of panacea, some kind of release from responsibility from the pocketbook burdens of the cherished American idea and tradition.
>
> It is an incredible proposal to turn back from the world-envied American accomplishment of more than a century.[2]

Although the Survey Team endorses tuition-free education, nevertheless, it believes that students should assume greater responsibility for financing their education by paying fees sufficient to cover the operating costs of services not directly related to instruction. Such services would include laboratory fees, health, intercollegiate athletics, and student activities. Moreover, the team believes that ancillary services such as housing, feeding, and parking, should be entirely self-supporting. Such fee provisions will require resident students to assume more financial responsibility for the manifold supplementary services associated with the educational program; yet, on the other hand, tuition-free institutions will permit most qualified students to attend publicly supported institutions. For those unable to pay the fees additional scholarships and loan funds are recommended elsewhere in this report. An increase in fees will undoubtedly be necessary to offset the effects of inflation. Adjustments of the fee structure should be made from time to time to assure its adequacy in meeting increased costs of services.

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[2] James L. Morrill. *The Place and Primacy of the State University in Public Higher Education.* Transactions and Proceedings of the National Association of State Universities in the United States of America, Vol. LVI, 1958, p. 20.

RECOMMENDATIONS

For the state colleges and the University of California it is recommended that:

1. The two governing boards reaffirm the long established principle that state colleges and the University of California shall be tuition free to all residents of the state.
2. Students who are residents of other states pay as follows:
   a. All students except those exempt by law pay tuition sufficient to cover not less than the state's contribution to the average teaching expense per student as defined by the Master Plan Survey Team's Technical Committee on Costs of Higher Education in the institution or system as follows:

      Teaching expense is defined to include the cost of the salaries of the instructors involved in teaching for the proportion of their time which is concerned with instruction, plus the clerical salaries, supplies, equipment, and organized activities related to teaching.

   b. Other fees for services not directly related to instruction
3. Each system devise a fee structure and collect sufficient revenues to cover such operating costs as those for laboratory fees, health, intercollegiate athletics, student activities, and other services incidental to, but not directly related to, instruction
4. The operation of all such ancillary services for students as housing, feeding, and parking be self-supporting. Taxpayers' money should not be used to subsidize, openly or covertly, the operation of such services. Because of the various methods which are used to finance construction of auxiliary enterprises such as residence halls and dormitories, it is impossible to state specifically which portions of amortization and interest payments are properly chargeable to operating expense. Consequently, it is recommended further that the governing boards determine which of such costs are appropriate charges to operating expense and include as much as possible of those with other operating expenses of such ancillary services.
5. Additional provisions be made for student aid and loans, particularly as fees and nonresident tuition increase
6. Periodically the governing boards recompute their per student teaching expense and set nonresident tuition accordingly. Peri-

odically they recompute the cost of operation of services such as feeding, housing, and parking, and set fees for such services accordingly

7. Each institution retain moneys collected from nonresident tuition
8. All the above policies when approved by the two governing boards be applicable immediately to the state colleges and the University of California, and that they be applied to the junior colleges as a matter of state policy and when applicable

CHAPTER X

CALIFORNIA'S ABILITY TO FINANCE PUBLIC HIGHER EDUCATION
1960-1975

Although Assembly Concurrent Resolution 88, which authorized this study, did not require consideration of the state's ability to finance higher education, the plan for the study as approved by both governing boards included the following questions for which answers were to be determined:

1. What is California's ability to pay for the future development of public higher education in the state?
2. What proportion of the state's budget has been and is now allocated for the support of public higher education? How does this compare with the efforts made to support public higher education in other states?
3. What are the probable supplemental (non-state) resources for financing public higher education in California which might be tapped?

Accordingly, the Liaison Committee on July 8, 1959, approved the appointment of the Technical Committee on California's Ability to Finance Higher Education to study the problems posed by these questions. On July 10, 1959, Arthur G. Coons, Chairman of the Survey Team, wrote a letter to Joseph O. McClintic, Chairman of the Committee, outlining its responsibilities. His letter contained the following statement:

> . . . this committee is to investigate the ability of the State to support higher education. This is essentially a study of the fiscal capacity of the State, but, of course, it includes basic projections of the strength of the economy and its likely growth. While we are not unmindful of the degree to which resources must be available to finance private education as it develops within its present trends, nevertheless, the immediate point here is the question of the capacity of the government of the State of California to finance public higher education, and to do so without the loss of the strength of existing private institutions, without the loss of the essential qualities of the California system of higher education as presently established.
>
> In considering fiscal capacity, our survey team believed that your committee at least initially should not be concerned with new taxes or reforms in the revenue system, but upon projecting the future resources of California and the availability of funds with which to support the projections of costs of higher education as calculated within existing frameworks.

In *A Restudy of the Needs of California in Higher Education,*[1] Chapter VI entitled, "California's Ability to Support Higher Education," included a detailed analysis of trends in state tax collections and the projected tax base. In addition, a careful analysis was made of the state's ability to support higher education for the decade, 1955-1965.

In considering the state's ability to support higher education during that decade in relation to the cost analysis also included in the *Restudy,* the following conclusion was drawn:

> The Restudy staff concludes that the State of California will be able to support a program of public higher education for the potential enrollment given in Chapter II of this Report that will be comparable in both scope and quality to that now offered without an unreasonable demand on the State's economy.

On the basis of the information on estimated costs contained in Chapter IX and in this chapter, the Survey Team has made in Chapter XI a similar appraisal for the period 1960-1975.

ESTIMATED GENERAL FUNDS AVAILABLE

In this section an attempt is made to determine the amount of money that will be available for public higher education from the State's General Fund for each year to 1975. This is done by making a comparison of projections of revenues to the General Fund with projections of expenditures for all claimants on the General Fund other than public higher education. On the assumption that the services of other claimants will remain at the 1958 level, the difference between these two projections presumably represents the funds available for public higher education. This method of calculating available funds for public higher education is used only as a statistical device for rendering a calculation and no implication should be drawn that public higher education should be funded after all other state agencies are supported.

A major purpose of these projections is to show the direction of development which may be reasonably anticipated. To use them as limitations would be a distortion of their purpose. They should be regarded as a means of illuminating the fiscal landscape in such a way as to aid in the formulation of policies to meet properly the needs of the state.

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[1] *Op. cit.*

The following assumptions concerning conditions between 1959 and 1975 were made by the Technical Committee in order to have a basis for the projections:

1. The general price level will be stable and constant.
2. Estimates will be made in "1958 dollars."
3. The existing tax structure in terms of rates and exemptions, as revised by the 1959 session of the California State Legislature, will remain constant for the period under consideration.
4. Expenditure programs for non-higher education claimants will remain unchanged in scope and quality.
5. There will be no significant change in international relations.
6. Productivity per man hour will continue to rise at approximately the average rate of recent years.
7. Average hours of work will not be substantially changed.
8. Existing trends and relationships will remain constant or will be modified in ways which can be reasonably anticipated from collateral facts.
9. "Full employment" will be sustained during the projected period.

REVENUE ESTIMATES

Personal Income as a Basis of Revenue. The consistent relationship between personal incomes in California and the yield of certain specific taxes is basic to projections of tax revenues.

Since personal income depends to a considerable extent on the proportion of the population employed, population estimates—particularly for adults twenty to sixty-four years of age, inclusive—are important. This report uses the estimates given in Table 29 as the population basis.

Two approaches were used to estimate personal incomes. The first approach resulted from estimating future per capita incomes on the basis of the historical trends of 1929 to 1957 and multiplying these per capita incomes by the projected population for California. The results of this method, using data which reflect in part the depression experiences of the 1930's, were believed to be conservative and thus were employed only as a check on the second method.

TABLE 29

Estimated Population of California, 1960 to 1975 *

(Civilian population)

Year (July 1)	Population[1]	Annual per cent change	Estimated population 21 years of age and over
1960	15,530,000	3.7	9,439,000
1965	18,454,000	3.4	10,934,000
1970	21,790,000	3.4	12,822,000
1975	25,755,000	3.4	15,157,000

[1] With the exception of the years 1960-63, the projections were based on an annual increase of 3.4 per cent. For the years 1960-63, the per cent of increase was 3.7, 3.6, 3.6, and 3.5 respectively.

* Source: The Technical Committee's report on *California's Ability to Finance Higher Education, 1960-1975*, Table 1. Statistics for this table were obtained from *California's Population in 1959*. Sacramento: California State Department of Finance, August, 1959.

The second personal income series projected by the Technical Committee, which was subsequently used, was derived by the following steps:

1. The personal income per employed civilian for 1957 was computed. (As the full-employment labor force approximates 74 per cent of the estimated civilian population from twenty to sixty-four years of age, the actual civilian income for 1957 was divided by 74 per cent of the civilian population in the twenty to sixty-four age group that year in order to get the income per employed civilian.)
2. The personal income per employed civilian each year in the future was increased by 2.5 per cent, which was the average annual productivity increase in constant dollars of California's personal income per employed civilian during 1951-57.
3. The estimated personal income per employed civilian was multiplied by the full-employment civilian labor force (74 per cent of civilian population, twenty to sixty-four years of age) for future years.

The results of these computations appear in Table 30.

Estimates of General Fund Tax Sources. The projected personal income and the population projections were used to project each General Fund tax source separately, based upon (a) past relationships of yields of particular taxes to personal income; (b) per capita

TABLE 30

Estimated Civilian Personal Income [1]—Series 2

Calendar year	Estimated civilian population 20-64 years of age (inclusive) July 1	Estimated employed civilians	Estimated personal annual income per employed civilian	Estimated civilian personal income
1960	8,396,000	6,213,000	$6,448	$40,061,000,000
1965	9,789,000	7,242,000	7,294	52,823,000,000
1970	11,580,000	8,569,000	8,251	70,703,000,000
1975	13,687,000	10,128,000	9,335	94,545,000,000

[1] Source: The Technical Committee report on *California's Ability to Finance Higher Education, 1960-1975, op. cit.*, Table 3.

relationships, where deemed more appropriate; and (c) somewhat arbitrary trend relationships in the case of one or two minor revenue sources. The detailed methods used in these tax projections are described in the report of the Technical Committee. The results of these revenue projections for each of the major sources are shown in Table 31.

It will be noted that projections of General Fund tax revenues, based upon civilian personal incomes resulting from full employment and an annual increased productivity of 2.5 per cent, would yield approximately one and one-half billion dollars in 1960 and thereafter increase to approximately three and one-half billion dollars in 1974-75.

ESTIMATES OF EXPENDITURES

Future General Fund expenditures were estimated for all claimants, except public higher education, on the basis of the following assumptions:

1. There will be no future change in the scope and quality of services provided.
2. In most instances, the increase of estimated 1959-1960 expenditures during future years will be in the same proportion as the general population growth or, wherever applicable, a more specialized population growth.
3. Direct capital outlay expenditures for public higher education from the General Fund are not sufficiently large under present legislative policies to warrant special attention herein. More-

TABLE 31

General Fund Estimated Revenues for Certain Fiscal Years, 1960-61 through 1974-75 *

Major taxes and licenses	1960-61	1964-65	1969-70	1974-75
	(Thousands of dollars)			
Alcoholic beverage taxes and licenses	$48,074	$54,123	$63,469	$75,027
Bank and corporation taxes	269,690	337,104	449,146	600,514
Gift and inheritance taxes	55,900	70,300	93,500	124,400
Horse racing (parimutuel) license fees	17,897	22,509	29,979	39,931
Insurance gross premium tax	64,564	80,682	107,991	144,412
Motor vehicle license (in lieu) fees	2,261	2,843	3,787	5,044
Personal income tax	265,485	360,089	517,398	754,657
Private car tax	1,975	2,375	2,875	3,375
Retail sales and use tax	725,104	906,358	1,207,596	1,614,574
Tobacco tax	64,798	73,545	86,672	101,948
Totals, major taxes and licenses	1,515,748	1,909,928	2,562,413	3,463,882
Miscellaneous and departmental revenues	44,254	52,254	62,254	72,254
Grand total, revenue	1,560,002	1,962,182	2,624,667	3,536,136

* Source: The Technical Committee report on *California's Ability to Finance Higher Education, 1960-1975, op. cit.*, Table 21.

over, they could not be projected in the absence of a consistent legislative policy to be used as a base.

These estimated expenditures were combined into six broad groups: (a) Education (exclusive of higher education); (b) Social Welfare, Health; (c) Mental Hygiene, Corrections; (d) Conservation of Natural Resources; (e) Fiscal Affairs, General Administration; (f) Other. The components of these groupings are described fully in the Technical Committee report. An adjustment ratio was introduced to account for the probable rising costs of state services as state employees share in the general increase in per capita income.

The projected total estimated costs of maintaining existing state operations and local assistance financed by the General Fund at their 1958 level of service (excluding public higher education), based on independent projections for each group, are shown in Table 32.

GENERAL FUNDS AVAILABLE

The difference between the projected revenues and expenditures represents, theoretically, that portion of the General Fund available

TABLE 32

Estimated Cost of Maintaining Existing State Operations and Local Assistance Financed by the General Fund [1]

(Excluding state support for higher education)

	1960-61	1964-65	1969-70	1974-75
	(Thousands of dollars)			
Education (exclusive of higher education)	$735,209	$914,625	$1,120,122	$1,338,843
Social Welfare, Health, etc.	238,264	268,956	312,774	363,749
Mental Hygiene, Corrections	172,752	196,246	225,495	259,586
Conservation of Natural Resources	30,292	36,339	45,483	57,004
Fiscal Affairs, General Administration	42,293	51,397	65,502	84,023
Other	73,981	90,817	114,564	138,880
Total	1,292,791	1,558,380	1,882,940	2,242,085
Adjustment ratio[2]	1.0200	1.1056	1.2240	1.3524
Adjusted total	1,318,647	1,722,945	2,304,719	3,032,196

[1] Source: The Technical Committee report on *California's Ability to Finance Higher Education, 1960-1975, op. cit.*, Table 22.

[2] This ratio is based on the assumption that 80 per cent of the total will be raised by 2.5 per cent compounded annually, which will permit the persons paid from these funds to share in the general increase in per capita income.

to finance public higher education. This difference is shown in Table 33. If these projections prove to be correct the General Fund would produce from 241 million dollars in 1960 to 503 million dollars in 1974-75 beyond that required for the support of all other state services at their 1958 level except that of higher education. Accordingly, then, these amounts would be available from the General Fund for the support of junior colleges, state colleges, and the University.

Further, it was determined as a check upon the foregoing data that if the same ratio of General Fund expenditures for public higher education to the General Fund revenues holds in future years as existed in 1957-58 (13.38 per cent), the state funds available for public higher education will range from 214 million dollars in 1960-61 to 486 million dollars in 1974-75. These data lend credence to the data presented in Table 33.

EFFORT TO SUPPORT PUBLIC HIGHER EDUCATION

The capacity of the State of California to support public higher education is determined primarily by three factors: (a) the size of the stream of income from which such support must be drawn; (b) the efficiency and effectiveness of the tax instruments by which this support is realized; and (c) the will of the people of the state to devote adequate funds for this purpose.

Abundant evidence shows that the taxable income within the state is large and steadily growing. The projected personal income data support this contention. Few other states have as much taxable wealth as California.

The efficiency and effectiveness of the taxation system employed in California are not concerns of this study. The tax base will continue to change in the future, as it has in the past. The income from taxes will have to rise to support the increased services of the state. However, the extent of the taxes and types of taxes required are responsibilities of the Legislature, and, therefore, were not considered by the Survey Team.

The third factor—the will of the people to devote adequate funds to higher education—is a major issue. To what extent do California's citizens value higher education as a state service? What priority, in terms of state appropriations, should be assigned to public higher education as a function of the state? Should the state devote more of its resources for higher education as compared with other state functions? These and similar questions must be answered by the Legislature.

Three measures were employed to ascertain the relative tax effort of this state. First, the total taxation effort was measured by com-

TABLE 33

Comparison of Revenue Estimates and Estimated Expenditures, 1960-1975, for All State Services Except Higher Education [1]

(In thousands of dollars)

Fiscal Year	Estimated revenue	Estimated expenditures	Surplus
1960-61	$1,560,002	$1,318,647	$241,355
1964-65	1,962,182	1,722,945	239,237
1969-70	2,624,667	2,304,719	319,948
1974-75	3,536,136	3,032,196	503,940

[1] Source: The Technical Committee report on *California's Abiltiy to Finance Higher Education, 1960-1975, op. cit.*, Table 26.

paring the state tax collections with the total personal income. Secondly, the expenditures for public higher education were compared with the total personal income. Finally, the per capita expenditure was compared with the per capita income to show effort in terms of the individual rather than as a result of the population size.

Relation of State Tax Collections to Total Personal Income. The ratio of state tax collections to total personal income for the four-year period, 1955 to 1958, inclusive, indicates that the tax collections of the state are about 5.2 per cent of the total personal income within the state. Similar ratios of tax collections to personal income were computed for other states, with the resulting array of ratios indicated in Table 34. It is apparent from this table that 20 other states had a higher ratio of tax collections to personal incomes than California.

Relation of Personal Income to Higher Education Expenditures of States. In Table 35 is shown the per cent of personal income of various states which is spent for public higher education for the years 1952-58. Expenditures include only *state* appropriations for

TABLE 34

Ranking of States According to a Four-year Ratio, 1955-58 inclusive, of State Tax Collections to Total Personal Income [1]

State	Per cent	State	Per cent	State	Per cent
Louisiana	8.1	Florida	5.4	Montana	4.3
Mississippi	7.3	Oregon	5.4	Delaware	4.2
New Mexico	7.3	Utah	5.4	Maryland	4.2
South Carolina	6.8			Massachusetts	4.2
Washington	6.7	CALIFORNIA	5.2	Pennsylvania	4.2
Oklahoma	6.6			Virginia	4.2
Arkansas	6.3	Kentucky	5.1	New York	4.0
North Carolina	6.0	Minnesota	5.1	Texas	4.0
Georgia	5.8	Idaho	5.0	Connecticut	3.8
Tennessee	5.8	Michigan	5.0	Indiana	3.7
Vermont	5.7	Rhode Island	5.0	New Hampshire	3.7
Alabama	5.6	Iowa	4.9	Ohio	3.5
Arizona	5.6	Maine	4.9	Missouri	3.4
North Dakota	5.6	Wisconsin	4.9	Illinois	3.2
Wyoming	5.6	Colorado	4.8	Nebraska	3.2
Nevada	5.5	South Dakota	4.6	New Jersey	2.7
West Virginia	5.5	Kansas	4.4		

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[1] Source: The Technical Committee report on *California's Ability to Finance Higher Education, 1960-1975, op. cit.*, Table 35.

TABLE 35

Per Cent of Personal Income of the States Spent for Public Higher Education, 1952-58, Combined Average [1]

State	Per cent	State	Per cent	State	Per cent
New Mexico	1.34	Mississippi	0.80	CALIFORNIA	0.46
Utah	1.34	North Carolina	0.79		
North Dakota	1.17	Oregon	0.77	Kentucky	0.43
Oklahoma	1.12	Idaho	0.75	Maine	0.43
South Dakota	1.01	South Carolina	0.74	Nevada	0.43
Colorado	1.00	Alabama	0.72	Maryland	0.42
Minnesota	0.94	West Virginia	0.67	Vermont	0.42
Montana	0.94	Nebraska	0.66	Illinois	0.36
Wyoming	0.94	Wisconsin	0.62	Ohio	0.35
Arizona	0.92	New Hampshire	0.61	Rhode Island	0.35
Arkansas	0.89	Virginia	0.61	Missouri	0.32
Louisiana	0.89	Delaware	0.58	Connecticut	0.30
Iowa	0.86	Georgia	0.58	New Jersey	0.22
Kansas	0.86	Tennessee	0.56	Pennsylvania	0.20
Indiana	0.85	Texas	0.55	New York	0.16
Michigan	0.83	Florida	0.51	Massachusetts	0.13
Washington	0.81				

[1] Source: The Technical Committee report on *California's Ability to Finance Higher Education, 1960-1975, op. cit.*, Table 29.

the junior colleges, the state colleges and the University.[2] It was found that California spends 0.46 per cent, or less than one-half of one per cent, of its personal income for public higher education, thus making it thirty-fourth among the states in this respect. Nine states, all west of the Mississippi River, made more than double the relative effort of California to support public higher education, as measured by this criterion.

Relation of per Capita Expenditures to per Capita Income. As a third measure of effort, computations were made to determine the per capita expenditures for higher education in relation to the per capita income for each of the states. These ratios, based upon an average ratio for the years 1952-58, inclusive, indicate the relative effort of the states on a per capita basis. By this measure, California has contributed about 0.68 per cent—slightly more than one-half of one per cent—of its per capita income for per capita expenditures on higher education. A total of 24 states expended greater effort than

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[2] Since the figures include only state appropriations, the grants from the federal government for special research contracts to the University are not included. For 1957-58, those grants amounted to $114,306,650. (This figure is taken from page 23 of the University of California Financial Report for 1958-59.)

California in terms of per capita expenditures for higher education as compared with per capita income. (See Table 36.)

TABLE 36

Ranking of the States—Average of Years 1952-58—in Per Cent That Per Capita State Expenditures for Higher Education Were of Per Capita Income[1]

State	Per cent	State	Per cent	State	Per cent
New Mexico	1.38	Mississippi	0.80	Texas	0.55
Utah	1.38	North Carolina	0.80	Florida	0.53
North Dakota	1.19	Oregon	0.78	Nevada	0.48
Oklahoma	1.11	Nebraska	0.77	Maine	0.43
Colorado	1.03	Idaho	0.76	Maryland	0.43
South Dakota	1.03	South Carolina	0.76	Vermont	0.42
Arizona	0.97	Alabama	0.73	Illinois	0.37
Minnesota	0.96			Kentucky	0.37
Montana	0.96	CALIFORNIA	*0.68	Ohio	0.36
Wyoming	0.94			Rhode Island	0.35
Louisiana	0.90	West Virginia	0.67	Missouri	0.32
Iowa	0.88	Wisconsin	0.63	Connecticut	0.30
Arkansas	0.87	New Hampshire	0.62	New Jersey	0.23
Indiana	0.87	Delaware	0.61	Pennsylvania	0.20
Kansas	0.87	Tennessee	0.61	New York	0.16
Michigan	0.86	Virginia	0.61	Massachusetts	0.13
Washington	0.82	Georgia	0.59		

[1] Source: The Technical Committee report on *California's Ability to Finance Higher Education, 1960-1975, op. cit.*, Table 33.

* Only *state* support is included. The junior colleges receive approximately 70 per cent of their support from local funds; and if these were included, California's ranking would be raised.

FINDINGS

The major findings of this chapter follow:

1. California's civilian population is expected to increase from 15,530,000 in 1960 to 25,755,000 in 1975, an increase of 66 per cent.

2. Between 1960 and 1975 civilian personal income is expected to increase from 40 billion dollars to 94.5 billion dollars, an increase of 136 per cent. (It should be noted that this is more than twice the per cent of increase expected of the civilian population during the same period.)

3. State General Fund revenues are estimated to increase from 1.56 billion dollars in 1960-61 to 3.54 billion dollars in 1974-75, an increase of 127 per cent.

4. Existing state operations and local assistance financed from the State's General Fund exclusive of the state's support for higher education is estimated to increase from 1.32 billion dollars in 1960-61 to 3.03 billion dollars in 1974-75, an increase of 130 per cent.
5. The difference between General Fund revenue estimates and the expenditures for all state services and local assistance except higher education ranges from 241 million dollars in 1960-61 to 504 million dollars in 1974-75.
6. In 1957-58, 13.38 per cent of the General Fund expenditures were for the support of higher education. If that same percentage is applied to the General Fund estimates for 1960-61 and again for 1974-75, the results are 214 million dollars and 486 million dollars respectively. (It should be noted that these are not greatly different than those shown in Item 5 above, which were computed by another method.)
7. California ranked twenty-first among the states when compared on the per cent which the average tax collections were of total personal income for the period 1955-58, inclusive.
8. When compared with the other states in the nation on the basis of the average per cent of total personal income spent for public higher education for the years 1952-58, California ranked thirty-fourth.
9. When compared with the average per cent that per capita expenditures for higher education were of per capita income for the years 1952-58, California ranked twenty-fifth among the states.

CHAPTER XI

WILL CALIFORNIA PAY THE BILL?

Assembly Concurrent Resolution 88 charged higher education with responsibility to avoid unnecessary expenditures of state funds. Because of the importance of the problem involved in meeting this responsibility, two technical committees were organized to probe its essential aspects. The Technical Committee on Costs investigated the financial needs of higher educational segments. Its results are reported in Chapter IX. The Technical Committee on California's Ability to Finance Higher Education investigated the future balance of state funds in relation to revenues and expenditures to determine available income for state-supported higher education. The results of this study are reported in Chapter X.

The purpose of this chapter is to make some comparison of the estimated costs of public higher education to the state as found in Chapter IX and the total projected revenues as shown in Chapter X, and to determine what proportion of these revenues might be available for the support of public higher education through 1975. A basis is thus laid upon which conclusions can be drawn regarding the outlook for the future.

One of the early issues debated by the Survey Team was the extent to which educational policies were to be based on, or determined by, economic factors. Pressure on the state to expand its services in all areas of human welfare in the future implies heavy financial obligations. The tremendous growth of public higher education enrollments presaged high future costs. In view of the heavy financial demands on the state in the future, however, it was obvious that the economic outlook was one of the very important factors in educational planning.

If, however, economics were the only basis on which public higher education in California is examined, the solution to many of its problems would be fairly simple. For example, state funds could be saved by shifting most of the lower division students from the University and the state colleges to the junior colleges, because the school districts operating junior colleges provide about two-thirds of their operating costs and all the capital outlay. Likewise, it would appear more economical for the state to shift some upper division and beginning graduate students from the University to state college campuses in order to conserve capital outlay and instruction costs involved in the more expensive University programs. On the other hand, economy is effected to the extent to which high cost curricula, particularly professional schools, are concentrated on University campuses, rather than supporting many such curricula, each with few students both at the University and at the state colleges. Another economy measure would be to give each of the public segments responsibility for a particular level of instruction, i.e., junior colleges for lower division, state colleges for upper division, and universities for graduate work, and to permit establishment of new institutions only as justified by forecasted minimum enrollments in the area of primary responsibility. None of these ideas proved acceptable. Good educational planning requires consideration of many factors other than the price tag.

FINANCIAL OUTLOOK

A comparison of the state's estimated revenues with its anticipated expenditures indicates that, other conditions remaining relatively normal, about one-half billion dollars ($503,940,000), will be available in 1975 after all state services except public higher education are financed. Admittedly, this is merely a projected figure, based upon anticipated future conditions in the light of past experiences and the assumption that other state services and local assistance will continue at the current level,[1] which at any time could be altered by many circumstances, including legislative action.

Will one-half billion dollars of state support be adequate to meet the needs of public higher education in 1975? The weight of evidence points to the inadequacy of this level of support—as substantial as the support may seem. Several factors support this viewpoint:

1. The Technical Committee on Costs estimates that if the same level of support is provided in the future as in the past, and the Master Plan recommendations to divert lower division students

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[1] The following quotation is taken from the report of the Technical Committee on *California's Ability to Finance Higher Education, 1960-1975*: "Underlying all these estimates is one basic assumption. It is assumed that the scope and quality of the relevant services are being extended into the future at their present level; no adjustment is made for probable but unpredictable future changes in the scope and quality of the services provided."

to the junior colleges and to increase state support for their operation are carried out, in 1975-76 the total costs of public higher education to the state (current and capital costs) will be 683.5 million dollars.

2. The costs of instruction and research, which increasingly will require more complex facilities to keep pace with rapid technological developments, are steadily increasing.
3. Estimates of future educational expenditures tend to be conservative, as proven by rechecking the projections made in both the Strayer Report in 1948 and the *Restudy* in 1955, with demands for increased services and programs surpassing by far the level of operations of a decade earlier.

It should be clearly understood that the 1975-76 estimate as given in paragraph 1 above is only to maintain the present level of educational support and opportunity. The Master Plan Team believes, however, that the state's systems of higher education should be subject to continuous improvement. Some proposals within this report, designed to improve higher education conditions, will require funds in addition to those now available for implementation. For example, recommendations which have already been approved by both the State Board of Education and The Regents provide for more scholarships, increased faculty salaries, and additional fringe benefits, and increased junior college apportionments. If state support is provided for these and many other desirable improvements, the anticipated income of one-half billion dollars appears even less adequate to meet future estimated expenditures.

As current revenues become inadequate to finance both current expenditures and capital outlay costs, one means of alleviating the immediate financial burden is to resort to borrowing for capital outlay purposes. The deferment of capital outlay costs through bonds will spread the financial burden for new buildings in part over the next generation, which will make most use of these facilities. The Master Plan Survey Team believes that such a bond issue should be confined solely to higher education, which would undoubtedly have greater appeal to the public than a general bond issue. The team believes that the bond issue should be voted in the early part of this decade (1962 or 1964) and that the proceeds should be apportioned fairly among the three segments of public higher education. Allocation by the state of capital outlay funds for the junior colleges is recommended in this report as one means of helping them to provide accommodations for the greater number of students in the future.

If, as evidence in this report clearly indicates, it is necessary for the state to assume an increased financial burden in order to maintain the present level of educational services, can the state raise additional taxes or appropriate a larger share of the available income to public higher education or both? A comparison of California's effort to provide for higher education with similar data from other states, as found in Chapter X, shows that California's effort to support higher education is good but not excellent. Although California is noted for its wealth, its state tax collections represent only a moderate per cent of its total personal income, as compared with other states. The per cent of personal income in California allocated to public higher education is comparatively low; for the period 1952-1958 a total of 33 states devoted a higher per cent of their income to public higher education than did California. Moreover, the per capita comparison of expenditure with income shows that California is about average among all states in its effort to support public higher education. It should be noted that these comparisons are based on state financing of higher education, thus including only state support and not the local financing of junior colleges.

Some states devote nearly three times as high a per cent of their incomes to public higher education as does California. Even though this state possesses the taxable wealth, a critical question concerns its willingness to use larger proportions of this wealth for its educational welfare. The best evidence of the state's commitment to the support of public education is found in the following paragraph taken from Section 15 of Article XIII of the State Constitution, added in 1933, during the depths of the depression.

> Out of the revenue from state taxes for which provision is made in this article, together with all other state revenues, there shall first be set apart the moneys to be applied by the State to the support of the Public School System and the State University.

This commitment, together with the high-level support California has given education over the years,[2] convinces the Master Plan

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[2] Of the budget submitted by Governor Edmund G. Brown to the Legislature for the year 1960-61 in the amount of $2,477,121,574, $1,052,570,000 or 42.5 per cent of the total (or 62 cents out of every General Fund dollar) is for the support of public education. For the year 1956-57 the per cent in the budget for education was 37.5.

Survey Team that whatever is required in the future to offer qualified students an efficient program of public higher education will be provided by the citizens of the state. As pointed out in this discussion and more fully presented in the tables in Chapter X, California's efforts in the support of higher education are relatively low when compared with other states.

Comparison of Estimated Revenues and Expenditures

Table 33 in Chapter X shows the difference between estimated general fund revenues and the estimated expenditures for all state services maintained at their 1958 level except higher education for certain years to and including 1975.

Chapter IX gives the estimated total expenditures and state funds required for public higher education on two bases, i.e., a continuation of the present *status quo* projections and the implementation of the Master Plan recommendations for the diversion to the junior colleges by 1975 of some 42,600 [3] lower division students expected to be enrolled in the state colleges and the University of California.

A comparison of the cost to the state of these plans for the fiscal years 1965-66, 1970-71, and 1975-76 is shown in Table 37. Attention is called in particular to the following data that are presented in this table:

1. The *modified* plan would cost the state 41.5 million dollars less in 1965-66 and 17.9 million dollars less in 1970-71 than the *status quo* plan. At all three levels, lower division, upper division, and graduate, the cost to the state is less for the *modified* plan.

2. For the year 1975-76, however, it is estimated that the *modified* plan will cost the state 18 million dollars more than the *status quo* plan, because of the added costs for upper division and graduate work. It should be noted, however, that in this year the increased apportionment to the junior colleges will amount to 37.4 million dollars, or more than twice that of the added cost of the *modified* plan to the state.

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[3] Although the Master Plan recommends the diversion of 50,000 lower division students to the junior colleges by 1975, the figures provided by the Technical Committee on Enrollment Projections estimated that this diversion by 1975 would include only 42,600 students.

TABLE 37

Difference Between Annual State Appropriations for Modified Plan and Those for Status Quo Projections, Fiscal Years, 1965-66, 1970-71, and 1975-76

(In millions of dollars—minus number means modified amount is less)

	Lower division	Upper division	Graduate division	Total
Fiscal year 1965-66				
Current expenditures:				
Public junior colleges				
Enrollment increase	+2.3	--------	--------	+2.3
Apportionment—per cent increase[1]	+6.4	--------	--------	+6.4
Total	8.7	--------	--------	8.7
State colleges	—3.7	—1.6	--------	—5.3
University of California	—8.2	—7.3	—6.3	—21.8
Total	—11.9	—8.9	—6.3	—27.1
Total	—3.2	—8.9	—6.3	—18.4
Capital outlay:[2]				
State colleges	—6.0	--------	+0.4	—5.6
University of California	—6.1	—6.4	—5.0	—17.5
Total	—12.1	—6.4	—4.6	—23.1
Total 1965-66 state funds	—15.3	—15.3	—10.9	—41.5
Fiscal year 1970-71				
Current expenditures:				
Public junior colleges				
Enrollment increase	+5.5	--------	--------	+5.5
Apportionment—per cent increase[1]	+19.0	--------	--------	+19.0
Total	+24.5	--------	--------	+24.5
State colleges	—11.6	+1.2	+1.0	—9.4
University of California	—12.4	—13.2	—5.8	—31.4
Total	—24.0	—12.0	—4.8	—40.8
Total	+0.5	—12.0	—4.8	—16.3
Capital outlay:[2]				
State colleges	—7.3	+3.0	+0.6	—3.7
University of California	—4.5	+3.1	+3.5	+2.1
Total	—11.8	+6.1	+4.1	—1.6
Total 1970-71 state funds	—11.3	—5.9	—0.7	—17.9
Fiscal year 1975-76				
Current expenditures:				
Public junior colleges				
Enrollment increase	+9.5	--------	--------	+9.5
Apportionment—per cent increase[1]	+37.4	--------	--------	+37.4
Total	+46.9	--------	--------	+46.9

(Continued on next page)

TABLE 37—Continued

Difference Between Annual State Appropriations for Modified Plan and Those for Status Quo Projections, Fiscal Years 1965-66, 1970-71, and 1975-76

(In millions of dollars—minus number means modified amount is less)

	Lower division	Upper division	Graduate division	Total
Fiscal year 1975-76—Continued				
Current expenditures—Continued				
State colleges	—20.7	+4.6	+1.5	—14.6
University of California	—20.6	—2.1	+3.6	—19.1
Total	—41.3	+2.5	+5.1	—33.7
Total	+5.6	+2.5	+5.1	+13.2
Capital outlay:[2]				
State colleges	—7.7	+3.3	+0.4	—4.0
University of California	—5.6	+7.8	+6.6	+8.8
Total	—13.3	+11.1	+7.0	+4.8
Total 1975-76 state funds	—7.7	+13.6	+12.1	+18.0

[1] These are the increased amounts of state support to junior colleges resulting from the Survey Team's recommendation to raise state support from 30 per cent to 45 per cent by 1975.

[2] Junior colleges are not included here because no provision is made in either the modified or status quo plan for state support for capital outlay for these institutions. The figures for the University of California do not include any capital outlay funds for the medical centers. (See Tables 27 and 28 in Chapter IX regarding estimates for junior college capital outlay requirements.)

As stated earlier in this chapter, the Survey Team concluded that economics is not the only factor of concern in the development of a Master Plan for higher education. Table 37 shows that the plan to divert lower division students to the junior colleges will effect substantial savings to the state for the years 1965-66 and 1970-71 and that for the year 1975-76, the added cost is more than offset by the increased support of the junior colleges.

In addition to these savings, the Survey Team is convinced that other recommendations in the Master Plan will likewise result not only in savings but in better returns for each educational dollar. The proposed status of the Co-ordinating Council will enable it to prevent unnecessary duplication of function and effort among the three public segments, and will make "empire building" difficult.

Table 38 shows a comparison of the two sets of estimates as described above. The figures in the third column show that additional funds in the amount of 60.2, 88.8, and 34.1 million dollars will be required to meet the estimated current expenditures only for the years

1965-66, 1970-71, and 1975-76, respectively. If to these are added the state requirements for capital outlay, the figures become 153.1, 178.9, and 127 million dollars respectively. These deficits will be increased to the extent the Master Plan recommendation for state assistance to the junior colleges for capital outlay is carried out and by the capital outlay requirements for the University Medical Centers.

TABLE 38

Comparison of the Estimates of General Fund Revenues Available for Public Higher Education and Estimated Requirements for the Years 1965-66, 1970-71, and 1975-76

(In millions of dollars)

Years[1]	Current operations			Capital outlay requirements from state funds[4]
	General funds available[2]	Estimated requirements[3]	Additional funds required	
1965-66	$243.4	$303.6	$60.2	$92.9
1970-71	348.8	437.6	88.8	90.1
1975-76	556.5	590.6	34.1	92.9

[1] Data for each fiscal year are co-ordinate with enrollment projections for the fall term of each year. For example, the projected enrollments for fall, 1965, are basic to financial projections for 1965-66.

[2] Although these figures are derived from the same source as data appearing in Table 33, they represent a later year to coincide with the target dates employed herein for enrollment and cost projections. The estimate for 1975-76 of $556.5 million, however, has been derived on a somewhat different basis than data in Table 26 of the Report of the Technical Committee on *California's Ability to Finance Higher Education, 1960-1975,* which extends only to 1974-75.

[3] These figures are taken from data on page 108 of the Report of the Technical Committee on *Costs of Higher Education, 1960-1975,* and are based on the modified projections, i.e., diversion of lower division students to the junior colleges, the establishment of new institutions, and increased state support for current costs of the junior colleges as recommended in the Master Plan.

[4] These figures, appearing previously in Table 28 under "Total Capital Outlay," include Fair and Exposition Funds but exclude (1) capital outlay requirements for the University's medical centers and (2) any state funds for junior college capital outlay. Furthermore, the cost impact of the Survey Team's recommendations on classroom and laboratory utilization has not been included in these figures because of a further recommendation that the co-ordinating agency undertake, without delay, a complete study of utilization in the junior colleges, state colleges, and the University of California for the purpose of making such modifications in the standards here recommended as are justified by the findings. Moreover, these figures do not include the cost of library seating required to meet the American Library Association standards. For these reasons, the capital outlay figures here do not agree with those found in Section V of the Technical Committee Report entitled, *Costs of Higher Education in California, 1960-1975.*

CONCLUSIONS

All evidence gathered in this study points to an unprecedented increase in the demand of the people of California for opportunity to participate in higher education, a chance for all who have the capacity and willingness to profit by college instruction.

In the light of this evidence and the information found in Chapters IX, X, and in this chapter, the Master Plan Survey Team concludes the following:

1. California's present revenue system including the four new tax measures enacted in 1959 will provide sufficient revenue to finance current expenditures for state services, including higher education and local assistance only through 1961-62; thereafter, estimated costs will exceed projected revenues.
2. Funds for capital outlay cannot be supplied after 1960-61 entirely within the present tax structure; thereafter, higher current revenues or bond issue money or both will be required to meet higher educational construction needs.
3. California can and will, as in both the past and present, provide adequate support for an efficient program of public higher education designed to meet fully the rapidly changing needs of society.

Appendix I

LEGISLATIVE ACTIONS ON THE MASTER PLAN RECOMMENDATIONS

As noted in the Preface, Governor Edmund G. Brown called a Special Session of the 1960 Legislature to consider recommendations in this report which require legislative action. Below are listed those recommendations followed by the actions taken on them by the Legislature in Special Session.

MASTER PLAN RECOMMENDATIONS REQUIRING LEGISLATIVE ACTION

1. A Constitutional Amendment (see Chapter I) with these major provisions:
   a. Precise statement of the functions of each of the three publicly supported segments of higher education in California
   b. The creation of a State College Board of Trustees patterned after The Regents of the University of California with respect to number, length of terms, method of appointment, and autonomy
   c. The creation of a Co-ordinating Council of 12 members, made up of three representatives for each of the three public segments and the private institutions, to be advisory to the governing boards and to the appropriate state officials
2. Expansion of the existing State Scholarship Program and modification of it to permit retention of scholarships awarded students who first go to a junior college. In addition, establishment of new state scholarship programs to
   a. Provide subsistence grants to holders of existing state scholarships; and
   b. Provide fellowships for graduate students primarily for the purpose of diverting more college graduates into teaching
3. Assistance to junior colleges by

   a. Gradually increasing state support for current operation from the existing approximately 30 per cent to 45 per cent by 1975; and
   b. Providing state funds for capital outlay either through grants or loans or both

4. Completion without delay "and in any event construction be started not later than 1962" of the three new campuses approved by The Regents in 1957 in the San Diego-La Jolla area, the Southeast-Los Angeles-Orange County area, and the South Central Coast area

5. Establishment of new state colleges (these to be in operation by 1965) as follows:
   a. In the vicinity of the Los Angeles International Airport
   b. In the San Bernardino-Riverside area

6. Greatly increased salaries and expanded fringe benefits to make college and university teaching attractive as compared with business and industry

LEGISLATIVE ACTIONS

A. With respect to the Constitutional Amendment mentioned above, the Legislature:

   1. Approved the submission of a Constitutional Amendment to the voters in November, 1960, which would enable the Legislature to set terms up to eight years (instead of 16 years as included in the Master Plan recommendation) for the new state college trustees.

   2. Passed, and the Governor signed, Senate Bill 33 which incorporates practically all the remaining items included in the recommended Constitutional Amendment. This bill originally passed the Senate by a vote of 36 to 1, and the Assembly with certain amendments by a vote of 70 to 0. (The Senate concurred in the Assembly amendments to the bill by a vote of 28 to 8.) Because of the large number of provisions which it contains, its significance can be seen best by quoting the measure here in full.

SENATE BILL NO. 33

SECTION 1. Division 16.5 is added to the Education Code, to read:

DIVISION 16.5. HIGHER EDUCATION

CHAPTER 1. GENERAL PROVISIONS

22500. Public higher education consists of (1) all public junior colleges heretofore and hereafter established pursuant to law, (2) all state colleges heretofore and hereafter established pursuant to law, and (3) each campus, branch and function of the University of California heretofore and hereafter established by The Regents of the University of California.

22501. It is hereby declared to be the policy of the Legislature not to authorize or to acquire sites for new institutions of public higher education unless such sites are recommended by the Co-ordinating Council for Higher Education and not to authorize existing or new institutions of public education, other than those described in subdivisions (2) and (3) of Section 22500, to offer instruction beyond the fourteenth grade level.

Nothing in this section shall be construed to require any further recommendations as a prerequisite to legislative action with respect to state colleges intended to be in operation by 1965 or University of California campuses intended to be under construction by 1962, as set forth in the recommendations contained in the Master Plan for Higher Education printed at page 42, paragraphs 4 and 6, Senate Journal (Regular Session) for February 1, 1960.

22502. Each segment of public higher education shall strive for excellence in its sphere, as assigned in this division.

22503. This division shall not affect the existence or status of the state nautical school.

22504. The provisions of this division shall supersede the provisions of any other law which conflict with the provisions of this division.

CHAPTER 2. UNIVERSITY OF CALIFORNIA

22550. The Legislature hereby finds and declares that the University of California is the primary state-supported academic agency for research.

22551. The university may provide instruction in the liberal arts and sciences and in the professions, including the teaching profession. The university has exclusive jurisdiction in public higher education over instruction in the profession of law, and over graduate instruction in the professions of medicine, dentistry, veterinary medicine and architecture.

22552. The university has the sole authority in public higher education to award the doctoral degree in all fields of learning, except that it may agree with the state colleges to award joint doctoral degrees in selected fields.

22553. The university may make reasonable provision for the use of its library and research facilities by qualified members of the faculties of other institutions of public higher education in this State.

CHAPTER 3. THE STATE COLLEGE SYSTEM

22600. The State College System shall be administered by a board designated as the Trustees of the State College System of California, which is hereby created.

22601. The board shall be composed of the following four ex officio members: the Governor, the Lieutenant Governor, the Superintendent of Public Instruction, and the person named by the trustees to serve as the chief executive officer of the system; and 16 appointive members appointed by the Governor, except that the members, as of the effective date of this section, of the State Board of Education shall serve ex officio as and among the first appointive trustees. The terms of the appointive members shall be four years, except that the first appointive trustees, including the members of the State Board of Education, shall classify the terms of their offices by lot so that four of the first appointive terms shall expire on the first day of March of each calendar year, commencing in 1961 and ending in 1964. The Speaker of the Assembly shall have the status of a legislative interim committee on the subject of the State College System and shall meet with the board and participate in its work to the extent that such participation is not incompatible with his position as a Member of the Legislature.

22601.5. Notwithstanding Section 22601, commencing on March 1, 1961, the terms of the appointive trustees shall be eight years, except that the 16 appointive trustees serving on February 28, 1961, shall have new terms of office which they shall classify by lot so that two of the terms of such appointive members shall expire on the first day of March of each calendar year commencing in 1962 and ending in 1969.

This section shall become operative only if Senate Constitutional Amendment No. 1 of the 1960 First Extraordinary Session of the Legislature is approved by the electors.

22602. The expiration of a trustee's term of office as a member of the State Board of Education or any earlier vacancy in that office shall create a vacancy in his trusteeship, unless the term ascribed thereto by lot has already expired. In case of any vacancy on the board of trustees, the Governor shall appoint a successor for the balance of the term as to which such vacancy exists.

22603. If the trustees and the Regents of the University of California both consent, the chief executive officer of the State College System shall sit with the Regents of the University of California in an advisory capacity and the President of the University of California shall sit with the trustees in an advisory capacity.

22604. The Trustees of the State College System shall succeed to the powers, duties and functions with respect to the management, administration and control of the state colleges heretofore vested in the State Board of Education or in the Director of Education, including all powers, duties, obligations, and functions specified in Article 2 (commencing at Section 24501) of Chapter 11 of Division 18 of this code, and all obligations assumed by the State Board of Education pursuant to that article prior to July 1, 1961.

On and after July 1, 1961, the Trustees of the State College System shall have full power and responsibility in the construction and development of any state college campus, and any buildings or other facilities or improvements connected with the State College System. Such powers shall be exercised by the Trustees of the State College System notwithstanding the provisions of Chapter 2 (commencing at Section 14100) and Chapter 3 (commencing at Section 14250) of Part 5 of Division 3 of Title 2 of the Government Code, except that the powers shall be carried out pursuant to the procedures prescribed by these laws.

The provisions of this chapter relating to the transfer of the powers, duties, and functions with respect to the management, administration and control of the state colleges shall become operative on July 1, 1961.

22605. The State College System shall be entirely independent of all political and sectarian influence and kept free therefrom in the appointment of its trustees and in the administration of its affairs, and no person shall be debarred admission to any department of the state colleges on account of sex.

22606. The primary function of the state colleges is the provision of instruction for undergraduate students and graduate students, through the master's degree, in the liberal arts and sciences, in applied fields and in the professions, including the teaching profession. Presently established two-year programs in agriculture are authorized, but other two-year programs shall be authorized only when mutually agreed upon by the Trustees of the State College System and the State Board of Education. The doctoral degree may be awarded jointly with the University of California, as provided in Section 22552. Faculty research is authorized to the extent that it is consistent with the primary function of the state colleges and the facilities provided for that function.

22607. All state employees employed on June 30, 1961, in carrying out functions transferred to the Trustees of the State College System of California by this chapter, except persons employed by the Director of Education in the Division of State Colleges and Teacher Education of the Department of Education, are transferred to the State College System.

Nonacademic employees so transferred shall retain their respective positions in the state service, together with the personnel benefits accumulated by them at the time of transfer, and shall retain such rights as may attach under the law to the positions which they held at the time of transfer. All nonacademic positions filled by the trustees on and after July 1, 1961, shall be by appointment made in accordance with Chapter 9 (commencing at Section 24201) of Division 18 of this code, and persons so appointed shall be subject to the provisions of Chapter 9.

The trustees shall provide, or co-operate in providing, academic and administrative employees transferred by this section with personnel rights and benefits at least equal to those accumulated by them as employees of the state colleges, except that any administrative employee may be reassigned to an academic or other position commensurate with his qualifications at the salary fixed for that position and shall have a right to appeal from such reassignment, but only as to whether the position to which he is reassigned is commensurate with his qualifications. All academic and administrative positions filled by the trustees on and after July 1, 1961, shall be filled by appointment made solely at the discretion of the trustees. The trustees shall establish and adjust the salaries and classifications of all academic and administrative positions and neither Section 18004 of the Government Code nor any other provision of law requiring approval by a state officer or agency for such salaries or classifications shall be applicable thereto.

The trustees, however, shall make no adjustments which require expenditures in excess of existing appropriations available for the payment of salaries. The provisions of Chapter 9 (commencing at Section 24201) of Division 18 of this code relating to appeals from dismissal, demotion or suspension shall be applicable to academic employees.

Persons excluded from the transfer made by this section shall retain all the rights and privileges conferred upon civil service employees by law. Personnel of state agencies employed in state college work other than those transferred by this section and who are employed by the trustees prior to July 1, 1962, shall likewise be provided with personnel rights and benefits at least equal to those accumulated by them as employees of such state agencies.

CHAPTER 4. JUNIOR COLLEGES

22650. The public junior colleges shall continue to be a part of the public school system of this State. The State Board of Education shall prescribe minimum standards for the formation and operation of public junior colleges and exercise general supervision over public junior colleges.

22651. Public junior colleges shall offer instruction through but not beyond the fourteenth grade level, which instruction may include, but shall not be limited to, programs in one or more of the following categories: (1) standard collegiate courses for transfer to higher institutions; (2) vocational and technical fields leading to employment; and (3) general or liberal arts courses. Studies in these fields may lead to the associate in arts or associate in science degree.

CHAPTER 5. CO-ORDINATING COUNCIL FOR HIGHER EDUCATION

22700. There is hereby created an advisory body, the Co-ordinating Council for Higher Education, to be composed of three representatives each of the University of California, the State College System, the public junior colleges, the private colleges and universities in the State, and the general public. The university shall be represented by three representatives appointed by the regents. The State College System shall be represented by its chief executive officer and two trustees appointed by the trustees. Public junior colleges shall be represented by a member of the State Board of Education or its chief executive officer as the board may from time to time determine, and a member of a local public junior college governing board and a public junior college administrator. The junior college governing board member shall be selected by the State Board of Education from a list or lists of five names submitted for its consideration by any association or associations of state-wide coverage which represent junior college governing boards. The public junior college administrator shall be selected by the State Board of Education from a list of five names submitted for its consideration by the California Junior College Association. The private colleges and universities shall be represented by three persons, each of whom shall be affiliated with a private institution of higher education as a governing board member or as a staff member in an academic or administrative capacity and shall be appointed by the Governor after consultation with an association or associations of such private institutions. The general public shall be represented by three members appointed by the Governor. Appointments and removals made pursuant to this section shall be at the sole discretion of the appointing authority specified herein.

22701. The council shall appoint and may remove a director in the manner hereinafter specified. He shall appoint persons to such staff positions as the council may authorize.

22702. The council shall prescribe rules for the transaction of its own affairs, subject, however, to the following requirements and limitations: (1) the votes of all representatives shall be recorded; (2) effective action shall require the affirmative vote of eight members; and (3) the affirmative votes of 10 members shall be necessary to the appointment or removal of the director.

22703. The co-ordinating council shall have the following functions, advisory to the governing boards of the institutions of public higher education and to appropriate state officials; (1) review of the annual budget and capital outlay requests of the university and the State College System, and presentation of comments on the general level of support sought; (2) advice as to the application of the provisions of this division delineating the different functions of public higher education and counsel as to the programs appropriate to each segment thereof, and in connection therewith shall submit to the Governor and to the Legislature within five days of the beginning of each general session a report which contains recommendations as to necessary or desirable changes, if any, in the functions and programs of the several segments of public higher education; and (3) development of plans for the orderly growth of public higher education and the making of recommendations on the need for and location of new facilities and programs.

22704. The council shall have power to require the institutions of public higher education to submit data on costs, selection and retention of students, enrollments, plant capacities and other matters pertinent to effective planning and co-ordination, and shall furnish information concerning such matters to the Governor and to the Legislature as requested by them.

22705. This division shall be known and may be cited as the Donahoe Higher Education Act.

SEC. 2. There is hereby appropriated from the General Fund for the support of the state system of higher education the sum of one hundred thirty-one thousand eight hundred sixty dollars ($131,860), or so much thereof as may be necessary, to be expended as follows:

(a) To the Trustees of the State College System of California for expenses incurred by the trustees pursuant to Chapter 3 (commencing at Section 22600) of Division 16.5 of the Education Code, including planning for the uninterrupted performance of the functions and duties transferred to the board	$81,860
(b) To the Co-ordinating Council for Higher Education for expenses incurred by the council pursuant to Chapter 5 (commencing at Section 22700) of Division 16.5 of the Education Code	$50,000

3. Other measures passed, and signed by the Governor where required, to give the new state college trustees autonomy beyond that now held by the State Board of Education with respect to the state colleges:
    a. Senate Concurrent Resolution 16, which states it to be the policy of the Legislature to give the trustees of the state

college system ". . . a large degree of flexibility in determining the most effective use of funds available for higher education in the state colleges . . ." and that ". . . it is the desire and intention of the Legislature that budget bills hereafter enacted shall provide for the state college system certain exemptions from fiscal and budgetary controls similar to those exemptions presently granted to the University of California . . ."

   b. Power to accept gifts or donations of real or personal property which will aid in carrying out the primary functions of the state colleges as defined in SB 33 above
   c. Authority to give vice presidents and deans in the state colleges tenure as academic teaching employees rather than continue the present practice of giving tenure at the same level and salary step or higher of vice presidents or deans

B. Other legislative actions relating to the Master Plan recommendations and signed by the Governor where required:

1. Passed AB 10 which amends the existing state scholarship law as follows:
   a. Increases the maximum number of state scholarships from 2,560 to 5,120 by 1964
   b. Increases the maximum award from $600 to $900
   c. Permits an award winner who elects to go first to a junior college to have his scholarship held in trust for not to exceed two years and three months
   d. Repeals the terminal date of July 1, 1964, for the scholarship program
2. Approved without appropriation new state colleges:
   a. In the Los Angeles area, vicinity of the International Airport
   b. In the San Bernardino-Riverside area
3. Gave final approval for the establishment of a new state college (action first taken on this in 1957) in the North Bay area and named it the Sonoma State College
4. Appropriated 3 million dollars to the University of California subject to release by the Director of Finance ". . . for cam-

pus planning and development including real property acquisition as may be determined by the Governor, Board of Regents and Director of Finance . . ."

5. Appropriated funds for a 7½ per cent increase of academic faculty salaries in the state colleges and the University of California

6. Passed House Resolution 16, which requests the Department of Finance and the Legislative Analyst with the assistance of the Department of Education and the University of California to make a study ". . . of standards of utilization and occupancy of instructional areas in the state colleges and the University of California . . ." and submit a report to the Legislature during the 1961 general session

C. Bills introduced but referred for interim study by legislative committees:

1. Several bills were introduced to provide additional state funds to the junior colleges for current operation and for state assistance for their capital outlay purposes by both grants and loans in accordance with the Master Plan recommendations. These were all referred for interim study through the passage of House Resolution 22 from which the following is taken:

> Resolved by the Assembly of the State of California, That the Assembly of the State of California recognizes its obligations to the junior colleges in increased assistance to the junior colleges in both capital construction funds and increased operating expenses; and be it further
>
> Resolved, That the assignment of Assembly Bills No. 37, 40 and 45, of the 1960 First Extraordinary Session to interim study has been done so that a thorough study can be made of the degree to which the financial obligations of the State can best be met, and substantial and effective assistance given to the junior colleges; and be it further
>
> Resolved, That the Assembly Interim Committee on Education is directed, after work with the Department of Finance and the Office of the Legislative Analyst, to submit to the Assembly by the fifth calendar day of the 1961 Regular Session of the Legislature a report which will recommend the type and degree of State support for junior colleges; and be it further
>
> Resolved, That the Assembly requests the State Board of Education and the Regents of the University of California to delay implementation of their proposed diversion of 50,000 students to the junior colleges until

> action has been taken by the Legislature which would financially assist the junior colleges to adequately educate these students . . .

2. Bills were likewise introduced to set up junior college scholarships, subsistence grants to state scholarship holders and for graduate fellowships. These matters, like the support items for the junior colleges, were referred for interim study.

Appendix II

JOINT ADVISORY COMMITTEE REPORT ON DIFFERENTIATION OF FUNCTION AMONG THE PUBLICLY SUPPORTED SEGMENTS OF HIGHER EDUCATION IN CALIFORNIA AS AMENDED BY THE MASTER PLAN SURVEY TEAM

Comments by Master Plan Survey Team

At the March 14, 1959, joint meeting of the State Board of Education and The Regents of the University of California this resolution was adopted:

> Therefore, Be it Resolved by the two Boards that the Joint Advisory Committee not only shall consider questions concerning the co-ordination of public higher education in California, but also the establishment of additional campuses, and the relationship between the three segments of public higher education in respect to their functions, admission requirements, and programs in order to reduce unnecessary duplication of campuses, facilities, and programs.

In accordance with this action the Joint Advisory Committee at its first meeting on March 26, 1959, began consideration of the complex problem of differentiation of function, which it continued for the next six meetings. On October 27, 1959, J. Burton Vasche, Chairman transmitted to the Survey Team the Joint Advisory Committee's final draft statement entitled, "Functions of the Junior Colleges, State Colleges, and the University of California." The Survey Team gave extended consideration to this statement and is in essential agreement, with these exceptions:

1. The creation of a commission to study the need for additional college teachers in California and, if such a need is found, how best can it be met
2. The drawing of state college students from the upper 40 per cent and University students from the upper 15 per cent of all California public high school graduates
3. The statement on research in the state colleges

4. The inclusion of a section dealing with extension programs and adult education

Accordingly, the Survey Team modified the Joint Advisory Committee statement and inserted a statement on the institutional functions of the state colleges and the University of California on the awarding of joint doctoral degrees as provided in the proposed constitutional amendment. As thus modified, the statement was recommended to the Liaison Committee on December 17, 1959, and was approved for transmission to the joint meeting of the two boards on December 18. However, at the request of The Regents the statement was withdrawn from the materials considered by the two boards on the grounds that there was possible conflict between the functions as given in this statement and those incorporated in the proposed constitutional amendment. The Survey Team believes that the Joint Advisory Committee statement as amended by the team will be of use to the Co-ordinating Council when it is established. Accordingly, the Survey Team suggests that the Joint Advisory Committee report be referred by the Liaison Committee to the new Co-ordinating Council when it is established and that the section of this report entitled "Extension Programs and Adult Education" be referred by the Liaison Committee to the State Advisory Committee on Adult Education.

Instructional Functions

The junior colleges will provide:

1. The first two years of a collegiate education for students planning to complete work for baccalaureate degrees
2. Two-year associate in arts degree programs with broad application for citizenship, health, family living, science, and basic communication needed by citizens
3. Vocational-technical, general education and training to prepare students for occupations which require two years of training or less
4. Counseling services sufficiently extensive to meet the needs of a nonselected group
5. Remedial courses for students whose preparation for their chosen curricula is inadequate

6. Vocational-technical, general education, and other appropriate programs for part-time students

The state colleges will provide:

1. A broad program leading to baccalaureate degrees (a) in arts and sciences, with majors in the standard subject areas, and (b) in applied fields that by their nature require four years of collegiate education
2. Programs designed to discharge their major responsibility for the preparation of teachers
3. Programs of graduate study leading to the master's degree in arts and sciences and in applied fields

[In addition to the foregoing the state colleges may award the doctoral degree jointly with the University of California.] [1]

The University of California will provide:

1. Broadly based instruction leading to the baccalaureate degrees
2. Graduate programs leading to master's degrees and doctoral degrees, and programs of postdoctoral instruction
3. Instruction in professional fields
4. Programs for the preparation of teachers

[In addition to the foregoing, the University may award the doctoral degree jointly with the state colleges.] [2]

ADMISSION POLICIES

The junior colleges will:

Admit all graduates of California high schools who desire to continue their education and others whose maturity indicates potential success in post-high-school education.

The state colleges will:

1. Admit students who typically rank in the upper $33\frac{1}{3}$ per cent [3] of all graduates of public high schools in California
2. Admit qualified transfer students

---

[1] Added by the Survey Team.

[2] *Ibid.*

[3] In the Joint Advisory Committee report this figure was 40 per cent.

3. Admit to graduate study qualified graduates of institutions of higher learning
4. Expand upper division and graduate enrollments faster than the lower division enrollments

The University of California will:

1. Admit students who typically rank in the upper 12½ per cent[4] of all graduates of public high schools in California
2. Admit qualified transfer students
3. Admit to graduate study qualified graduates of institutions of higher learning
4. Expand upper division and graduate enrollments faster than the lower division enrollments

In addition all three segments will:

Meet the special needs of superior students by co-operating with high schools in admitting certain gifted high school seniors to college courses while they are completing their high school work. Already sanctioned by law in the case of the junior colleges and followed by some campuses of the University, the practice should be authorized for the state colleges also.

RESEARCH

The junior colleges will:

Consider themselves instructional institutions with work confined to the lower divisions; hence, research should be directed toward improving the quality of junior college instruction.

[In addition, junior college faculty should be encouraged to pursue individual research during summers and whenever possible during the academic year.][5]

The state colleges will:

1. Recognize that *instruction* is their paramount function and will provide library, laboratory, and other facilities appropriate to the degrees offered.
2. Carry on research, using facilities provided for and consistent with the primary function of the state colleges.[6]

---

[4] In the Joint Advisory Committee report this figure was 40 per cent.

[5] Added by the Survey Team.

[6] This statement was modified by the Survey Team.

The University of California will:

1. Be the primary state-supported academic agency for research, both basic and applied
2. Be the primary public repository for scarce documents and other unique library resources needed for the doctor's degree and for research programs
3. As part of its responsibility for scholarly work, make its research and library facilities available to qualified members of faculties of other institutions

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